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ABSTRACT

This booklet is intended for the use of physical education teachers of children from nine through twelve years of age. Examples of instructional activities are provided that are based upon the fundamental concepts of exercise physiology, kinesiology, motor development, motor learning, the social/psychological aspects of movement, and movement in the humanities (art, history, philosophy). The described activities are meant to enhance physical health, improve personal appearance, provide increased achievement potential, and develop psycho-social awareness, as well as to increase aesthetic appreciation of human movement and develop coping abilities. (JD)

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"BASIC STUFF" SERIES

A collection of booklets presenting concepts, principles and developmental ideas extracted from the body of knowledge for physical education and sport. Each booklet is intended for use by undergraduate majors and practitioners in physical education.

"BASIC STUFF" SERIES

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preface

The information explosion has hit physical education. Researchers are discovering new links between exercise and human physiology. Others are investigating neurological aspects of motor control. Using computer simulation and other sophisticated techniques, biomechanics researchers are finding new ways to analyze human movement. As a result of renewed interest in social, cultural, and psychological aspects of movement, a vast, highly specialized body of knowledge has emerged.

Many physical education teachers want to use and apply information particularly relevant to their teaching. It is not an easy task. The quantity of research alone would require a dawn to dusk reading schedule. The specialized nature of the research tends to make it difficult for a layperson to comprehend fully. And finally, little work has been directed toward applying the research to the more practical concerns of teachers in the field. Thus the burgeoning body of information available to researchers and academicians has had little impact on physical education programs in the field.

The Basic Stuff series is the culmination of the National Association for Sport and Physical Education efforts to confront this problem. An attempt was made to identify basic knowledge relevant to physical education programs and to present that knowledge in a useful, readable format. The series is not concerned with physical education curriculum design, but the "basic stuff" concepts are common core information pervading any physical education course of study.

The selection of knowledge for inclusion in the series was based upon its relevance to students in physical education programs. Several common student motives or purposes for participation were identified: health (feeling good), appearance (looking good), achievement (doing better), social (getting along), aesthetic (turning on), and coping with the environment (surviving). Concepts were then selected which provided information useful to students in accomplishing these purposes.

The Basic Stuff project includes two types of booklets. Series I is designed for use by preservice and inservice

teachers and consists of six pamphlets concerning disciplinary areas: exercise physiology, kinesiology, motor development and motor learning, social/psychological aspects of movement, and movement in the humanities (art, history, philosophy). This first series summarizes information on student purposes. Series II is also designed for use by teachers but with a different focus. Three handbooks are included: early childhood; childhood; adolescence. Each describes examples of instructional activities which could be used to teach appropriate physical education concepts to each age group.

The development of the Basic Stuff series has been a cooperative effort of teams of scholars and public school teachers. Scholars provided the expertise in the content areas and in the development of instructional materials. Public school teachers identified relevance to students, field tested instructional activities, and encouraged the scholars to write for general understanding.

The format of the booklets was designed to be fun and readable. Series I is structured as a question and answer dialogue between students and a teacher. Series II continues this emphasis with the infusion of knowledge into the world of physical education instructional programs. Our hope is that the Basic Stuff series can help to make this scenario a reality.

Linda L. Bain, *Editorial Committee*
University of Houston

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foreword

It would be totally incorrect for the reader to perceive that the concepts (*What* do you have for me?), principles (*Why* is it important?) and the learning experience ideas (*How* can I get it?) found in this booklet represent all of the appropriate concepts in Series I relating to children, ages nine through twelve. Even among the members of the team there was frequently a lack of unanimity as to what Series I concepts should be included and/or excluded. Obviously then, to best utilize this booklet, the reader should first be thoroughly acquainted with the content of Series I.

The principles found throughout this booklet under the "*Why* is it important?" sections represent input from Series I as well as major truths the authors have come to believe in as a result of academic and experiential learnings. In the interest of placing major focus on movement-oriented learning experiences, the team frequently omitted some principles about which it felt strongly but excluded so that a movement-based approach could be maintained. The reader will find that in most cases, principles and learning experiences are correlated, e.g., principle number one (*Why* is it important?) can be experienced via the learning experiences listed as item number one (*How* can I get it?).

Some of the activity suggestions provided in this booklet are totally original. Some activities are modifications of the original ideas of others. There are also activities which may be quite familiar to the reader because they have seen frequent use in physical education classes. It is anticipated that the reader will modify and/or create additional activities to best meet the needs and interests of children in particular educational situations.

It is necessary to point out that the format used, i.e., an outlining of learning experiences, sometimes does not put sufficient stress on the relationship between the learning experiences and the conceptual objectives to be learned. The person using this booklet, therefore, should be continually alert to the fact that the relationships between the learning activities and the conceptual objectives must be emphasized throughout the teaching-learning episode.

The writing team for "The Child" sincerely hopes this booklet provides ideas useful in facilitating efforts so that students can conceptualize the body of knowledge content via movement-oriented experiences.

CHAPTER ONE

health

Courtesy of Los Angeles City Schools

Psycho-Social

As a result of participating in physical activity, a person's feelings about self can be greatly influenced

Why Is It Important?

1. Lessons should be designed to facilitate positive feelings for all students.

2. Self-concept can be enhanced through physical activity.

3. In order for self-esteem to be positively affected, the student must be personally involved in class activities and not simply included in indirect roles (scorekeeper, cheerleader, etc.).

4. Participating in physical activity often results in the "feel better phenomenon". People continue to pursue those activities which have fulfilling results.

How Do I Get It?

Learning Experiences

1. Develop a simple inventory form to determine the movement likes and dislikes of each student. Allow students the opportunity to help plan and "teach" lessons which correspond to their favorite activities. As an example, students indicating an interest in gymnastics may be asked to help plan and facilitate the following lesson concept:

Movement Theme. Balancing at Different Levels Activity Stations — balance beam, mats, vaulting box, floor, circus balancing ball.

The "teachers" at each activity station can be responsible in assisting classmates to achieve the assignments. "Teachers" can provide much assistance through demonstration, explanation, and basic spotting (of course it is the physical education teacher's responsibility to make sure safety factors are constantly followed). By permitting student involvement in planning and implementing lessons, students gain the feeling of importance and confidence in their abilities.

2. Conduct brainstorming sessions to discuss how and why physical activity can help you feel good about yourself. Follow up the discussion with lessons involving all or some of the suggested ideas.

Example: start a jogging program and keep a chart of individual, class, and/or school distances. The ultimate goal may be to jog twenty miles in four weeks, or, if the whole school is participating, jogging across the nation or jogging around the world mileage can be the goal. Numerous possibilities exist within this idea.

3. Plan activities which stress the idea that involvement contributes to how we feel about ourselves.

Example: play a game in which only one or two people are actively involved. Afterward, plan an activity in which all students serve an integral role and are active participants. Have students share their reactions to both experiences.

Example: develop a game which has two teams, one composed of a few members and the other composed of the remaining members of the class. Again, discuss the students' feelings about involvement.

4. Select a few high interest areas (dance, fitness, gymnastics) and provide before and after school experiences for interested students. The fitness idea is easily structured and can be personally initiated. A measured distance on the school campus

can easily be provided. The gym or an area in the building can be set aside for strength and flexibility activities (mats, homemade weights, pull-up bars, etc.). Also, if facilities will permit, classroom teachers will often plan a period during the day to pursue physical activity. Activities such as rope jumping, jogging, and working on performance goals (skill and fitness) are easily self-initiated and require little equipment. Many students would take advantage of these opportunities.

Psycho-Social

Negative movement experiences are not necessarily bad. They can serve as stepping stones toward a greater understanding of self and more appropriate selections of physical activity

Why?

Principles Involved

1. As a result of negative movement experiences, students are often provided insight into alternative activities which are more conducive to body type and interests.

2. Students may begin to view their movement potential more realistically and as a unique characteristic. Evidence of this may be noticed through students setting more progressive and obtainable goals as well as through their viewing others as having strengths and weaknesses also.

3. By disclosing information with others about feelings, likes, and dislikes, one begins to understand self more clearly.

How?

Learning Experiences

1. Planning a large variety of activities during the school year, students can become attuned to the type of movements and activities in which they do and do not enjoy participation. The student can readily assess personal skill and interest as well as recognizing areas needing improvement. A good way to encourage students to persist with an activity which is initially negative is to plan an activity that is novel and challenging. Juggling three beanbags is a good example. The teacher should demonstrate the activity once and then have students experiment with the task. After a few minutes of practice, discuss the task in terms of:

- difficulty—too hard? too easy?;
- positive or negative feelings?;
- is the activity interesting? boring?;
- what can be done to help achieve the task? (practice with one, then two, then three, etc.).

At that point, the teacher should offer some helpful suggestions and individual assistance. Again, the class should discuss the meaning of negative experiences and the fact that there will always be activities we enjoy and those in which we do not wish to continue to participate. Sometimes, though, just giving oneself a little time to practice is all that is needed.

2. Emphasize the uniqueness of each person. Plan activities which point out individual strengths and weaknesses so students can realize that everyone can do some things well while other activities are much more difficult. Having students bounce balls with their non dominant hand is a good activity

that demonstrates difficulty. To make it even harder, have them jog or dribble through an obstacle course as they attempt this feat. Another suggestion would be to induce prejudicial situations to begin a discussion about the uniqueness of people. Examples:

- all people with blue eyes must move sideways during the activity;
- all students born in the month of February must travel on three body parts instead of two.

This type of activity must be handled with caution and the intentions fully explained to the class. Factors to be emphasized would include:

- everyone is important regardless of how skilled or unskilled;
- everyone has strengths and weaknesses;
- everyone is different.

Encourage students to set personal performance goals. Since the *AAHPERD Youth Fitness Test** is widely utilized, students could set goals for some or all of the test items. The teacher needs to help students set progressive and realistic goals. It is always motivational to see progress. Have students keep records of their achievements as this assists in retaining interest.

3. Nurturing an environment which is conducive to honesty and in which everyone is entitled to an opinion is very important. Provide for significant partner and group discussion. An ideal time to interact is at the end of each lesson. This "talk time" (closure) develops group awareness, elicits ideas of group interest and fosters a feeling of group cohesiveness. Often it is easier to share our feelings with a single friend or partner. Therefore, allowing students to choose their own partners is a good practice. Also providing opportunities in and out of class for partners to work on skills, projects, etc., together will help facilitate self-disclosure.

Example: "friend games" — teaching strategy where two partners work together to help each other improve motor fitness skills. Each challenges the other toward improvement by cooperating, nurturing, and supporting.

Example: assign partner projects to be completed outside of class such as mini-bulletin boards, movement collages, making equipment, and creating games and dances. These activities will encourage partner interaction as they strive to work and plan together.

**AAHPERD Fitness Test Manual.* Washington, DC: American Alliance for Health, Physical Education and Recreation, 1976.

Physiology of Exercise

An active lifestyle is necessary to live to the fullest. To achieve such a lifestyle it must be tailored to an individual's needs, interests, and talents, or the motivation to pursue such a lifestyle may not be maintained

Why?

1. Physical activities provide a unique, enjoyable way to spend a portion of one's day. These activities can be cathartic experiences which foster a feeling of self-satisfaction and/or belonging and can be important to mental health.

2. Activities should be engaged in which will provide purpose and pleasure in the individual's current life as well as being preparatory for purposeful and pleasurable involvement later on in life.

3. Participation in physical activities can help to minimize risk from hypokinetic diseases.

How?

Learning Activities

1. Students should be assessed as to their interests so that activities can be offered on an individualized preferential basis. A simple questionnaire can be developed to do this. An enormous number of activities can be undertaken which provide pleasurable cathartic experiences. However, it must be remembered that these experiences will differ based on individual student's interests. In other words, providing one activity for the entire class is probably no more appropriate relative to meeting individual needs and interests than would one reading assignment be developmentally appropriate for an entire class. Learning centers (stations) can be used to increase opportunities for individualizing physical activity experiences.

2. Children in the 9-12 year age range should have a thorough background in basic motor skills as these are the skills which will allow for successful participation in a variety of "lifetime" activities.

There will probably never be a time in a person's life where more time to practice motor skills will be available than in childhood. Much of this free time is available outside of school hours; therefore, the teacher must provide children with activities they can do at home.

Lead-up activities to various sports are very appropriate at this age. Students should be taught to modify activities so that the number of participants, rules, scoring, playing area dimensions, etc., can be adjusted to accommodate their needs. For example, the teacher could challenge the children to find ways to play a two or four person baseball type game in a rela-

tively small space. Children could use a yarnball, carpet squares for bases, and a plastic bat to make use of a small playing space. Rules could be changed so that only two bases are used. The same type of modification could be used for many types of sports (for example, two person soccer, floor hockey or volleyball). *Lead-up Games to Team Sports* by Blake and Volp would serve as an excellent resource with regard to generating activity ideas. *How to Change the Games Children Play* by Morris provides insights relative to games modification.

3. Learning individual, partner, and small group activities is most important because they represent realistic numbers in home and neighborhood play situations. Children should understand that it is very rare when major physiological changes occur as a result of school experiences exclusively. Therefore, in order to prevent hypokinetic diseases, children should be exposed to interesting, fun-filled, and vigorous movement experiences which can be participated in at home as well as at school.

A properly executed warmup will help to prepare muscles and joints for safe and efficient use

Why?

1. A warmup should be individualized as much as possible.

2. Warmups should commence with activities which warm the body in general.

3. Warmups should progress from low to high intensity (progression).

4. A warmup of specific body parts which will be stressed in the lesson, should follow general warmup.

5. Flexibility type exercises should be done using a controlled stretch (non-ballistic) technique.

6. Flexibility is specific to a given joint; therefore, general flexibility must be maintained and/or increased on a head to toe basis.

How?

Learning Experiences

1-2. Students should be able to apply warmup exercises as individuals. After students have conceptual knowledge concerning warmup, the instructor should ultimately be able to start a class by saying "find a space and begin your warmup with general warmup exercises". Students should demonstrate an understanding of the principle involved by doing such things as jogging in place, jumping jacks, performing creative total body movement exercises, aerobic dance activities, and so forth. Students should know that although it is not a precise indicator, the onset of sweating is a crude indicator of sufficient warmup.

3. Playing music is one technique for suggesting a gradual increase in warmup intensity. Music should start with a relatively slow rhythmical beat and gradually increase in tempo. However, when using this technique, a teacher should realize that the music tends to set a cadence which may not be in keeping with the optimal warmup pace for every individual in the class.

4. As with general warmup exercises, students should be able to apply specific warmup exercises. Depending on the length and intensity of the general warmup session, the teacher might stop the activity for a brief resting period and during this time indicate the activities planned for the class period. The children would then be asked to do specific warmup exercises befitting the lesson content. For example, a "hurdler's seat"

exercise (see Figure 1) would be a logical choice if the activity were to involve running and/or jumping. Proceeding in this manner, the instructor would actually be conducting an individualized formative (ongoing) evaluation of the students' understanding and application of the concepts. Students should be encouraged to make up some of their own exercises once they realize the specific muscle groups requiring performance readiness. An ability to do this would provide some indication of conceptual understanding.

Figure 1. Hurdler's seat exercise.

5. Children need to be taught the optimal way to do flexibility type exercises so as to minimize muscle soreness from exercising and to decrease the injury potential associated with ballistic (fast) exercising, e.g., fast bobbing toe touches from a standing position. The controlled (static) stretch is the recommended technique. The student should hold the end position (full range position) of a joint for 3-15 seconds. Properly selected music with sustained phrases is useful in this regard.

6. Students should be encouraged to create their own exercises to provide for total body flexibility. If the instructor moves around asking individual students for creative responses to specific flexibility needs, the challenge, relevance, and success necessary to self-initiate experiences of this nature outside of the school environment may be provided.

It is important to utilize a cooling down procedure (tapering off, warming down) as the concluding aspect of any vigorous activity session

Why?

1. The time needed to cool down is determined by the degree of intensity of the activity session and to some degree on the environmental conditions present.

2. Upon cessation of exercises, blood will rush to the extremities, particularly the legs, unless some movement activity is done to prevent this "pooling".

3. As a rough estimate of sufficient cool-down, heart rate should be below 120, three minutes after cessation of vigorous activity and below 100 after ten minutes.

How Do I Get It?

Learning Experiences

1. After all vigorous activity sessions, make sure the students keep moving. The following activities are appropriate for cooling down: very slow jogging; walking; stretching activities; very slow rhythmic movements.

2. Have each student take his pulse prior to a vigorous activity done in class. Immediately upon completion of the activity have all students check pulse rates at the wrist or carotid artery. (*Note:* there has been some concern expressed in the literature indicating that using the carotid artery for taking pulses in children may be harmful. Consequently, until this controversy is settled, it may be prudent to check children's pulses at the wrist.) Take pulse again at a three-minute mark. Check to see how many are below the 120 goal after three minutes. After they have returned to their classroom, or wherever they are 10 minutes after completing the exercise session, have them check their pulse rate again to see if it is under 100. Discuss the differences between pre- and post-activity pulse rates and the physiological implications involved. Discuss the significance of recovery heart rates.

Not all exercises are developmentally beneficial

Why Is It Important?

1. Some exercises are contraindicated, i.e., they are not recommended because they are potentially harmful to the user. Students should be advised that the following exercises are not recommended by many orthopedists: double leg raise; standing toe touches (particularly when done ballistically); toe raises on a flat surface; the duck walk; reverse body bends such as the wrestler's bridge and back bends.

How Do I Get It?

Learning Experiences

Replacement exercises should be provided for all of the contraindicated exercises listed above (see Figure 2).

Specific reasons why these exercises should be avoided are as follows.

Double leg raises place too much pressure on the lumbar spine. It is potentially dangerous relative to injury to that portion of the spine. The danger is particularly applicable for people with weak abdominal muscles.

Standing toe touches are typically done ballistically and a ballistic action coupled with a gravitational pull enhances the chance for overcompensation in the downward movement, consequently risking injury to the back. This exercise is particularly dangerous when used as a general warmup exercise.

Toe raises done on a flat floor have a tendency to cause a loss of flexibility in the ankle joint due to a shortening of the calf muscle (gastronemius).

The duck walk exercise stretches the lateral ligaments of the knee due to the ballistic torque action placed on the knee joint as the performer walks along.

The wrestler's bridge and gymnastic type *back bends* place considerable pressure on the lumbar spine.

Contraindicated Exercises | Replacement Exercises

Purpose of exercise is to develop abdominals.

Double leg raise

Bent knee sit-up

Purpose of exercise is to stretch buttock muscles (gluteus) and muscles of the leg (hamstrings).

Standing toe touch (ballistic)

Sitting toe touch (stretch slowly—hold end position 3-15 seconds)

Purpose of exercise is to strengthen calves.

Toes raises off floor

Toe raises: toes on board to allow for stretching

Figures 2a-f.

Contraindicated Exercises | Replacement Exercises

Purpose of exercise is to develop lateral knee flexibility.

Duck walk

Lotus position
(static stretch)

Purpose of exercise to develop flexibility in back.

Wrestler's bridge
(gymnastic back bend)

Table — back bends

Figures 2g-j.

Good feelings result from both the process and the product of participation in physical activity

Why?

1. Process is identified as the feelings about the performance while product is identified as the results or benefits of the performance.
2. What feels good differs among participants.
3. Knowing what feels good increases individual performer's understanding and the potential significance of movement experiences.

How?

Learning Experiences

1. Give students a "set" to be aware of their feelings during participation in some fairly continuous activity. Allow students the opportunity to be aware of how they feel. Occasionally stop an activity at a peak time and have students write how they feel. Try this same technique after success in a cooperative-competitive task such as a tug-of-war or a partner type activity.

2. Develop a simple inventory form to determine likes and dislikes of each student. The students then have the opportunity to plan and teach other students activities which correspond to their favorite activity. While "teaching", the student can consistently instruct other students to verbalize how they feel about the performance. Activities in gymnastics, tumbling, and track and field would function well towards establishing this concept.

3. Students are encouraged to determine a moment of a performance experience that "feels good". Each student should recapture that moment by duplicating the movement experience and describing "how" the movement felt good. The class or small group should share the verbalization of the "good feeling" of each student.

Example: each student would find a practice area to perform the experience that "felt good". The students would be challenged to repeat the movement over and over again and find words to verbalize why it "felt good". Students then would be called together to share and discuss.

As a follow-up to the idea given above, have each student perform for the other students. The "audience" would determine why the movement form "felt good".

Humanities

All performers vary in the experiencing and understanding of health (feeling good) as a product and a process of participation

Why?

1. Some changes are very subtle and occur over a period of time; some of the changes seem dramatic and occur in a relatively short period of time.

2. All aspects of participation do not "feel good".

3. Many performers refer directly to health and fitness when describing the products of participation.

How Do I Get It?

Learning Experiences

1. Conduct brainstorming sessions to discuss how and why physical activity can help health and fitness. Follow up the discussion with lessons involving some of the suggested ideas.

Example: record present weight of students and plan exercise programs and diet considerations which would increase the health and fitness of the individual students. Sponsor jogging, cycling, skating, or swimming programs after school to fulfill the exercise program.

2. Have students develop a physical fitness chart which is kept throughout the year. Students can then set individual goals and monitor progress. An example would be to evaluate distance covered in a ten-minute run each month as a circulo-respiratory measure.

3. What one performer identifies as feeling good, another may identify as unpleasant or even painful. As an example: some runners enjoy the feeling of fatigue in muscles while other experience similar fatigue as an annoyance and interruption of their goals for running. Distract students from body sensation by "coaching" focus on the technical achievement or the result of the skill. Motivate more by using records and charts of individual performance.

4. Fitness assessments can be made to determine areas needing improvement. Assessments relative to strength, flexibility, agility, and cardiovascular fitness can be conducted. A variety of instrumentation could be used such as hand dynamometers, flexometer, and stopwatches to get reliable data. Periodic testing would be helpful in motivating students. Activities such as circuit training, jogging, rhythmic aerobics, obstacle courses, etc., can be utilized to help students improve in areas of interest and/or deficiency.

Kinesiology

Lower back problems and/or injury can be decreased through proper conditioning techniques

Why Is It Important?

1. Muscles (which help in providing proper joint alignment) need to be of sufficient strength to accomplish their tasks.

2. Maintaining a rounded back when exercising, e.g., doing situps, decreases the chance of injury to the lower back.

How Do I Get It?

Learning Experiences

1. Have children practice specific activities for muscle strength development related to joints that are most used in the lesson content under consideration. Encourage children's interest in developing and maintaining strength by providing ways to measure and record it, especially at home. Occasionally ask children to bring in their progress charts from home for perusal and comments by the teacher.

2. In a developmental exercise session, do the following to be sure children are maintaining a flat or rounded lower back position:

a) watch them and comment when appropriate (positive comments as well as corrective comments are appropriate);
b) have them analyze each others movements;
c) have them feel the difference of doing the exercise correctly and incorrectly—encourage their awareness of the proper position—discuss the consequences of contraindicated styles over the long and/or short term.

Motor Development

Participation in physical activities can help a person to feel good

Why?

1. Physical, mental, and social factors affect a person's potential for feeling good.
2. Physical activity can help make the body more attractive.
3. A good level of fitness helps one to be more alert and full of energy.
4. Physical activity helps to release stress and tension.

How?

Learning Experiences

1. Have students keep a physical fitness notebook.
   a) Self-analysis on physical health:
      1) height and weight;
      2) eating habits;
      3) exercise routine.
   b) Students should understand that it is unlikely there is enough time in physical education classes to make significant progress toward the physical fitness of individual students. Students need to select activities they enjoy and will do at home on their own. Opportunities to try such activities can be initially experienced through the physical education program. Exemplary activities consist of daily exercise routines, jogging, bike riding, dancing, etc.
2. Have students participate in small group games with the understanding that no one is to be left out. All must work together to develop a good feeling. Opportunities for children to modify old games or make up new ones may be appropriate depending on the situation.
3. Challenge students to develop a physical activity routine to follow every day for a month. Have students keep an energy level chart of when they have high and low energy feelings. Have them set goals in relation to proper sleeping, eating, and exercising regimens. Have them discuss their feelings when these goals are met.
4. Discuss the ability to relax tense muscles. Work on the difference between contraction and relaxation. Performing isometric exercises will help to comprehend this concept. The following ideas may help students "feel" relaxed.
   a) Press hands together with maximum pressure for three seconds then relax them.

b) Contract and release stomach muscles for three-second intervals.
c) Contract and release neck muscles for three-second intervals.
d) Pretend to be a balloon gradually inflating, then burst.
e) Pretend to be a piece of steel and then a feather.

Motor Development

A positive self-concept results from feeling good and developing a sense of individuality

Why?

1. One of the most important things to achieve in life is a good feeling about one's self.

2. Physical health factors, along with mental health factors of self-image, self-acceptance, and self-concept, are the building blocks for feeling good about one's self.

3. To develop individuality one must have a good self-concept.

4. Physical skills are very individual in nature and it is important to understand and accept one's abilities and limitations.

How Do I Get It?

Learning Experiences

1. Have students make a list of things they like about themselves and things they do not like. Have them see if the "good" things outweigh the bad. Have students take the same list and decide what they can do to change some of the things they do not like. Students should feel at ease in approaching the teacher for help. The teacher should provide feedback and reassurances relative to motor development needs. Referrals can be made for other needs.

2. Have students make a list of things they personally feel they like that no one else might like.

- eating—foods, e.g., bananas with peanut butter
- dress—clothes
- hairstyles
- perfumes

Consider and discuss the individuality of ideas with the students.

3. Have the students make a list of physical skills in which they feel they perform well.

Examples: moving and tracking; guarding and rebounding; swimming; running; jumping for height or distance.

Discuss the individual differences relative to selection. Have students discuss in class why they preferred specific activities. Make sure students note the diversity of activity selections as well as the degrees of difference in skill levels.

Satisfaction results from attaining goals that are realistic

Why?

1. To set realistic goals, it is necessary to understand individual needs and capabilities.

2. As one matures, the importance of individual goal setting and attainment increases and the importance of group acceptance decreases.

3. As achievements are reached through practice and improvement, the learner can more accurately develop goals for further achievement.

How Do I Get It?

Learning Experiences

1. Using the list found on pages 26-27, have each student select an activity of his own choosing and then set a realistic goal to work toward. More than one goal may be selected, if reasonable.

2. Discuss goal setting and peer acceptance. Have the students pretend they are adults and assume they have whatever job they would like to have as an adult. Recommend that they set physical fitness type goals that would be useful in their chosen profession or choose activities to help them cope with the stresses of their imagined jobs.

Examples: staying fit; maintaining proper body weight; participation in stress reduction activities.

3. After goal attainment has been achieved (as per activities indicated in #1 above), have the students express their inner feelings concerning goal accomplishment. Ask about the implications of their success toward further goal setting, etc.

CHAPTER TWO

appearance

Photograph by Carlyjane Dunn Rice

Psycho-Social

We all have cognitive and emotional images of ourselves — these ideas of self form what is termed body image

Why Is It Important?

1. Feelings and ideas about one's body are deduced from interaction with others in our society.

2. A person's weight, height, ability, etc. help compose the cognitive, somatic image of the body.

3. If one is unhappy with his body image, change can occur by working to modify the body's conformation and its physical abilities.

How Do I Get It?

Learning Experiences

1. Due to the fact that social opinion has great affect upon one's body image, we are constantly attempting to be accept-

able to others. However, before we can get a true feeling for ourselves as movers, we must literally see ourselves. Mirrors provide great opportunities to watch self-movement and to attempt skill refinement. By looking at ourselves actually moving, the images we acquire regarding our bodies are often different than the ones we sense from within. Also, we are beginning to see ourselves as others see us.

Videotaping is another effective way to achieve body-self awareness. Once students transcend the unique affect of seeing themselves on the monitor, it becomes a useful teaching tool. The teacher may wish to tape anything from individual performance to an entire class participating as a group. Students get the chance to see themselves as movers and, as a result of this, body image may be affected.

2. Taking body measurements such as height and weight are helpful to the student. This information is important as one determines desired body weight based upon height and age. A more reliable means of ascertaining desirable body weight and percent of body fat is by using skin-fold calipers. This instrument measures subcutaneous fat and is reasonably reliable if used properly. Most exercise physiology texts have the necessary formulas for these calculations.

3. To change something, one should know exactly what it is that needs changing and determine whether the change is really necessary. When considering body image, one must take a realistic look at the reasons why change is desired. Many times, social standards and stereotypes are the precipitating factors and they are ill-conceived and often unrealistic when considering change. A simple question-answer form can help students address these important concerns. Some items might include:

- what would you change about your body if you could?;
- why would you consider this change?;
- do you think it would make you feel better about yourself?;
- how can you go about effecting this change?

Many students are very sensitive about being overweight, skinny, or uncoordinated; therefore, using much discretion is very important as students establish confidence in the teacher's willingness to help them deal with their problems.

Exercise Physiology

Regular exercise has been shown to be effective in both preventing and treating obesity

Why?

1. Persons of both sexes and all age levels may suffer from obesity.

2. Regular exercise can prevent and/or treat obesity provided the person is motivated and exercises properly.

3. Regular exercise helps to maintain desired weight.

4. There is no evidence that regular exercise leads *to obesity* by overstimulating the appetite.

How?

Learning Experiences

1. Using a caliper, the instructor can obtain the body fat percentage of each student in the class. Available norms can be used to determine high, medium, and low fat percentages. If there are a significant number of children in the obese category, they could be encouraged to join the school's version of "Weight Watchers". Perhaps this group could meet after school at designated times to learn more about obesity and to engage in physical activities of interest. A voluntary group may be challenged to lose a number of pounds of fat. Again, physical education homework may be used as a means to generate enthusiasm to work on vigorous activities outside of school as well as in school. After a given time the calipers would be used again to determine body fat content of each group member to determine how many pounds of fat the group lost. Individual counseling involving possible individualized prescription-type activities would be a function of the teacher. Parental permission and consultation with the school physician is advised.

2. Students should understand the basic formula, i.e., caloric input must be in balance with caloric output, or weight gain or loss will result. The teacher can provide students with information indicating the approximate caloric utilization for different types of activities as well as supplying information which indicates the amount of calories in given amounts of specific foods. Students can keep logs based upon their individual caloric intake and expenditure. Classroom teachers could supplement and complement these experiences with other dietary information such as the nutritive value in various foods and importance of vitamins in the diet.

3-4. Students should be encouraged to keep height, weight, and activity records. Teachers should ask students to periodi-

cally share this information so that the teacher can determine if weight increase is in advance of "normal" growth rates. Students should learn that evidence exists which supports the belief that lack of activity may be a more dominant cause of obesity than excessive caloric intake. The chart provided below will be useful in helping students realize the caloric utilization rates of a wide variety of activities.

Activity	Calories Used Per Hour				
Weight:	100 lbs.	120 lbs.	150 lbs.	180 lbs.	200 lbs.
Archery	180	204	240	276	300
Backpacking (40 lb. pack)	307	348	410	472	513
Badminton	255	289	340	391	425
Baseball	210	238	280	322	350
Basketball (halfcourt)	225	255	300	345	375
Bicycling (normal speed)	157	178	210	242	263
Bowling	202	229	270	311	338
Canoeing	135	153	180	207	225
Circuit Training*	247	280	330	380	413
Dance, Aerobic	255	289	340	391	425
Dance, Ballet	187	212	250	288	313
Dance, Disco	315	357	420	483	525
Dance, Modern	187	212	250	288	313
Dance, Social	210	238	280	322	350
Fencing	225	255	300	345	375
Fitness Calisthenics	232	263	310	357	388
Football	225	255	300	345	375
Golf (walking)	187	212	250	288	313
Gymnastics	232	263	310	357	388
Handball	450	510	600	690	750
Hiking	225	255	300	345	375
Horseback Riding	180	204	240	276	300
Interval Training*	487	552	650	748	833
Jogging (5½ m.p.h.)	487	552	650	748	833
Judo	232	263	310	357	388
Karate	232	263	310	357	388
Mountain Climbing	450	510	600	690	750
Pool; Billiards	97	110	130	150	163
Racquetball; Paddleball	450	510	600	690	750
Rope Jumping (continuous)	525	595	700	805	875
Rowing, Crew	615	697	820	943	1025
Running (10 m.p.h.)	625	765	900	1035	1125
Sailing	135	153	180	207	225
Skating, Ice	262	297	350	403	438
Skating, Roller	262	297	350	403	438
Skiing, Cross-Country	525	595	700	805	875
Skiing, Downhill	450	510	600	690	750

Activity	Weight	Calories Used Per Hour				
		100 lbs.	120 lbs.	150 lbs.	180 lbs.	200 lbs.
Soccer		405	459	540	621	575
Softball (fast)		210	238	280	322	350
Softball (slow)		217	246	290	334	363
Surfing		416	467	550	633	684
Swimming (laps)		240	272	320	368	400
Table Tennis		180	204	240	276	300
Tennis		315	357	420	483	525
Volleyball		262	297	350	403	483
Walking		157	178	210	242	263
Waterskiing		360	408	480	552	600
Weight Training		352	399	470	541	558

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Exercise Physiology

Knowledge of how to develop strength provides a means for boys and girls to develop bodies that look good

Why Is It Important?

1. Good muscle tone (condition) is necessary to provide a healthy looking appearance.

2. An understanding of the overload and progression principles is important for strength development.

3. Muscles should go through a full range of motion (flexibility) to prevent "muscle boundness".

4. Both extensor and flexor muscle groups (see Figure 3) should be stressed equally to provide appropriate body symmetry.

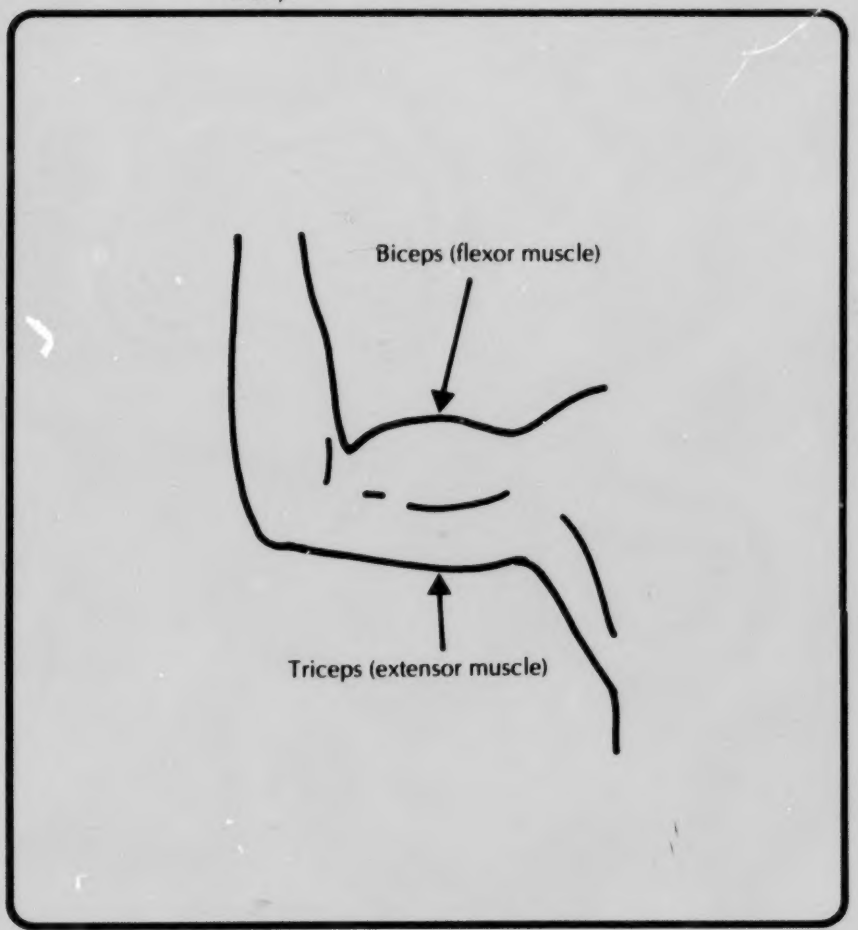


Figure 3.

5. Girls do not have the same genetic potential for developing muscle mass (size) as boys; therefore, girls will not develop an unfeminine overmuscled appearance if exercises are done correctly.

How?

Learning Experiences

1. Good muscle tone can be achieved through vigorous participation in movement activities. A wide range of activities should be covered in physical education classes to enhance the students' opportunity for personal selection of activities of interest. A diversity of activities will also facilitate muscle conditioning throughout the body. Students should be asked to identify the muscle groups that are significantly benefitted through the various in school (or out of school) activities in which they engage. Students can be asked to keep a muscle development (fitness) diary. The diary might have a form of the human body on each page. A daily entry would be inscribed on the parts of the anatomy benefitted by the activities of the day (see Figure 4).

2. The overload principle indicates that in order to get stronger muscles, one must attempt above normal workloads. The principle of progression specifies that the amount of exercise should reflect a gradual increase in workload over a period of time. Activities which allow for measurement would be most appropriate for demonstrating this principle. Students could, for example, keep daily records of their jogging experiences (how far, how fast, how long, was the job). Recording carotid pulse rate for one minute, five minute, and ten minute intervals after the various jogging sessions, would serve as a motivational incentive reflecting improvement. As pulse rate numbers start to decline, the length of jogging time (duration) or the distance run could be increased, or, the time it takes to run a particular distance could be decreased (intensity). All of the training variables (duration, intensity, and frequency) relate to the overload and progression principles.

3. The ultimate range of movement at a particular joint is the distance between the maximum flexion and extension positions. Whenever strength development is attempted at a particular joint, it is important that the applied weight or resistance goes through the full range of motion. "Muscle boundness" (a decrease in the range of motion in a joint) can only occur if exercising is done improperly. The larger the range of motion a joint has, the greater the force it can generate. A

DAILY FITNESS RECORD

date _____

FLEXIBILITY (activity)	(number or time involved)
Neck:	
Shoulders:	
Arms:	
Waist:	
Legs:	
Feet:	

STRENGTH (activity)	(number or time involved)
Neck:	
Shoulders:	
Arms:	
Waist:	
Legs:	
Feet:	

ENDURANCE (activity)	(time or distance)
Walked:	
Jogged:	
Swam:	
Bicycled:	
Others:	

OTHER ACTIVITIES (including sports skills)

Figure 4. Fitness record (one page for each day).

flexometer, a device used to measure joint flexibility, can be procured at a moderate price. Students can be taught to use the flexometer to measure their own flexibility. The instructor should inform the students concerning the benefits of good flexibility in relation to such things as obtaining high skill level performances and moving through life more safely and efficiently. Individual records can be kept to indicate flexibility measurements. Appropriate exercises to enhance flexibility can be demonstrated by the teacher.

4. To provide for symmetrical (even) development of muscles, students can learn the names and locations of major muscle groups. Whenever an extensor muscle is involved in a strengthening process, a corresponding flexor should also be strengthened and vice versa.

5. Some girls are afraid that if they exercise they will develop a very apparent muscle definition and thus lose a feminine appearance. Perhaps the easiest way to get girls to participate in vigorous physical activity is to have female athletes of a close age relationship come in and talk with the girls about this matter. After the talk, maybe the female athletes could demonstrate their skills and/or perhaps conduct a portion of their daily workout with the girls joining in the activity ("a picture is worth a thousand words").

Looking good is dynamic, not static

Why Is It Important?

1. Looking good is more than a function of visual perception such as dressing well.

2. Artists portray the athlete's body in expressions of inner strength, alertness, efficiency, and unity.

3. It is through the body that individuals reflect and express who they are.

How?

Learning Experiences

1. Since the athlete's body is respected as youthful and energetic, finely muscled and prepared for action as well as portrayed with confidence, capability, strength, and skill, students could gather photos (library, daily newspaper) of performers as an out-of-class assignment. During class time, students can discuss these photos and traits and then observe each other during class activity for the same characteristics. At the end of each subsequent class session, students will model a classmate's performance that demonstrates this dynamite athletic look.

2. Have students work in small groups of two and three to plan and act out, for the class, a performance in pantomime to fashion the beauty of a specific activity. Examples could be the imagery of a soccer player with prolonged stretching for kicking, a football player demonstrating a strength position on the line, or the full extension of a ballerina. Performing the above in slow motion is particularly challenging to the muscle control capabilities of students.

Humanities

It is through the "body" that individuals reflect and express who they are

Why Is It Important?

1. Attitudes toward the human body are often divided into separate concepts.

2. When the body is conceived as an "object" it is a thing to decorate, to clothe, etc.

3. When the body is conceived as a subject, it is the person and the person's capabilities.

How?

Learning Experiences

1. When assigning groups or teams, students should be instructed to analyze the task and be encouraged to select membership according to the task. An example could be to select students that are the heaviest and largest to develop pyramid bases in tumbling activities. In field sports, students guarding a goal in the defensive area could be chosen by those that desire less endurance activity.

2. While the majority of the class is engaged in the activity, a few students will observe the others for examples of "beauty" in the activity. Students would take turns throughout the activity session. The observers will be called upon to share their selection and explain the selection. Examples of alertness, strength, efficiency, and unity would be encouraged.

Motor Development

One's appearance is influenced by genetic and environmental factors

Why?

1. Major appearance factors that are influenced by genes are: height; length of limbs; facial features.

2. The pattern of growth is genetically determined.

3. Appearance factors controlled by environmental factors include body composition (the ratio of fat-free weight to fat weight) and postural factors.

How?

Learning Experiences

1. Have students bring a single baby picture of themselves and a single picture of parents to class. Make it a learning station on genetics. See which students can match baby pictures to parents.

2. Use only baby pictures and see which students can guess which picture belongs to each student in the class.

3. Plan movement activites such as:
   a) Work on developing good posture. Each child places a bean bag on his head. On the signal "go", from the teacher, all students move about the open spaces. On the signal to "stop" all must become still without the bean bag falling off.
   b) Repeat same exercise but in their "own space" have students move from a standing position to a sitting position without letting the bean bag fall. Try sitting to standing.
   c) Have students work in partners or groups holding hands and performing stunts.

4. To challenge upper grades, have students walk a balance beam and change directions with book or bean bag on their heads.

Motor Development

Growth changes the body in many ways

Why?

1. Growth patterns in boys and girls are the same, but the timing is different.
2. Growth rates of body segments vary.
3. Sex differences are found in growth rates.
4. The nervous system increases in complexity, which may affect potential skill in physical activities.

How?

Learning Experiences

1. Use art as a media for this concept. Have each student lay down the length of his body on large sheets of brown paper. Have students trace an outline of each student's body on the paper. Have students color or paint in facial features and clothes on their outlines. Cut the figures out. See which students are tall, short, etc.
2. Use same outlines and have students observe or label body parts. See which student has long legs, short arms, short waist, long waist. Have students measure body segments.
3. Movement lesson: see which students excel in particular events. Are there any commonalities among the better rope jumpers or among those that do not do so well at arm-hanging? Have the children discuss their findings. Why is it that some people do well in some tasks and not so well in other tasks?
4. Discuss with the children the function of the nervous system. Discuss why motor skills are long remembered, i.e., once a skill is learned it is typically not forgotten. For example, once one learns how to skate, swim, or ride a bike, it is not forgotten. Working in partners, have children perform various skills that they know how to do. Have them question each other as to when they learned the skill, how long ago did they last perform the skill, etc.

Motor Development

Important changes occur in bone and muscle during the growth years

Why?

1. New blood cells are laid down and calcified to increase length and size of bones.

2. The blood supply to the bones is necessary for both maintenance of normal bone strength and bone growth.

3. Exercise improves circulation of the blood which influences bone strength and growth.

4. Muscle growth follows the same pattern as general body growth.

5. Muscle size is influenced by a sex hormone (testosterone) and exercise.

6. Muscle need not be increased in size to increase in strength.

How Do I Get it?

Learning Experiences

1. Halloween is a good time of the school year to introduce a lesson on "bones of the body".

Have a student bring in a skeleton costume and hang it in the room. Ask questions about bones of the body. Have the students in the classroom analyze the movements of the skeleton costume as the wearer performs various skills.

2. Movement lesson: use the movement of the skeleton to create a dance. Stimulate the movement of the dance with instruments that make skeletal sounds.

3. Discuss and perform exercises that help to improve circulation in bones and joints.

4. Discuss what muscles do for the body (protect and provide movement capability).

5. Discuss why boys have a larger muscle mass than girls, or men have larger muscles than women (due to the amount of testosterone in the body).

6. Movement lesson: administer fitness test to students.

- chin-ups or arm hang
- sit-ups
- broad jump
- 50-yard dash

Provide for a pre-test and a post-test. During the interim, have students work on running and jumping activities, partner pull-ups and sit-ups. Have students keep records and deter-

mine their own specific strengths and weaknesses. Recommend exercises to remediate weaknesses. Cite the positive changes that occurred. Question as to the reasons for improvement.

Motor Development

Physical activity and exercise may improve appearance

Why?

1. Genetic factors cannot be altered, but environmental factors can be.

2. Physical activity is one factor that can alter muscular development and body composition.

3. Proper nutrition and diet with proper physical activity can greatly enhance muscular development and body composition.

4. Corrective exercises can improve posture.

How?

Learning Experiences

1. Movement activities: have students develop exercise routines to popular music they enjoy (aerobics). Have students understand which exercises develop certain muscles, which exercises are good for stretching and which ones help with muscle endurance type activities.

2. Discuss proper nutrition and diet and how physical activities affect the diet. Have students see which exercises or activities use up the most calories (bike riding, swimming, housecleaning, typing, playing tennis, etc.).

Have students keep a record of calories taken in daily, weekly, and how many calories they expend during the week.

4. Exercises for posture, for abdominal muscle development which is very important for good posture, use:

a) sit-ups with hands covering chest;
b) leg lifts—one at a time, bend knee and pull to chest;
c) stomach raises—lie on back, legs bent, feet flat on the floor, roll up on shoulders, lifting stomach to the ceiling making 45° angle from knees to head—hold for a certain number of counts, lower slowly;
d) pull small of back to floor and hold for certain number of counts (at least three seconds).

CHAPTER THREE

achievement

Courtesy of Cedar Rapids Community Schools

Psycho- Social

Achieving greater skill, and feeling for a challenging activity, encourages the participant to continue the pursuit of excellence

Why Is It Important?

1. In order for an achievement situation to exist, the activities must be challenging. One's performance must be evaluated on the basis of standards of excellence and the participant must feel skill, not chance, to be the determining factor.

2. Achievement motives and incentives are individual concerns for students and it is quite possible to self-induce the achievement motivation level.

3. Competition is an important factor when considering achievement.

4. Students should have an opportunity to discuss the outcome of class activities, to ask questions, and share insights.

5. Performance in and enjoyment of physical activity can be enhanced if stressful situations can be avoided or reduced.

How Do I Get It?

Learning Experiences

1. Observing the performance of highly skilled dancers and athletes can set an ultimate image of excellence for the student. However it may be more helpful and realistic if the model is a fellow student or someone of the same age and/or having other similarities.

Making inexpensive loop films of various skills can help students strive to achieve greater proficiency. Students can operate this equipment with ease after a very brief demonstration. The teacher also may wish to make loop films of the students as they perform. It should be emphasized, however, that proficient skill for one person may not look exactly like that of another.

Fitness-related activities can be used. For example a student can be tested on the number of sit-ups completed in one minute. Subsequently, individual goals can be set as the student strives to achieve greater abdominal strength. This idea is particularly helpful with students who have difficulty meeting norm standards because of weight problems, lack of strength in particular muscle groups, poor flexibility, as well as many other deficiencies. In this way they are attempting to better themselves, and are not competing against someone else's potential.

2. A good game that demonstrates various achievement orientations is as follows:

Team Target. This can be a competitive game which involves either throwing or kicking a ball toward a target. The team members (5 per team) must work together to collect points as they vie against other teams for the highest score. The target can be a trash can, a traffic cone, a pasteboard box, etc., and each team should have a separate target. Various distances should be marked off (preferably one distance for each team member). Team members choose the distance from which they wish to throw or kick. If more than one player initially chooses a particular distance, it must be resolved who will stay and who will move to a vacant position, as each distance must be represented. Scoring is up to the teacher and/or class. Examples would include: 5 points for hitting the target; 3 points if the ball comes to rest within one foot of target; 1 point for each try. Many different scoring combinations are possible.

Team Target can also be used as a cooperative activity simply by keeping a collective score. The entire class works together and all efforts culminate in a final class score. Initially this approach is useful to familiarize students with the concepts of the game. Any game in which scorekeeping is a factor can become a more cooperative venture by using collective scores.

An ideal way of studying the concepts of competition and cooperation is through indirect competition (this concept is elaborated on in the next idea, #3). Team Target can be played as originally described except a time limit is imposed. A number of teams compete against each other using time (the clock) as the primary opponent. Individuals on each team work cooperatively to compile the best time (score) for their team. Competitive team scores can be compared if it is appropriate to the students' level of social interaction development.

It is apparent that the teacher must make many important decisions based upon students' readiness to participate in certain activities. Challenge and excitement are important, but so is being ready and able to meet the demands of the task. Both physical skill and social interaction complexity need to be considered prior to planning lessons for students.

Fruitful discussions can emanate from these lessons—why do some members choose to throw from shorter distances or longer distances? Did each student make an attempt from every distance? If so, why? How have previous successes and failures affected decision-making in this game?

3. There are three basic categories of competitive activities: self-competition; indirect competition; direct competition.

Self-competition entails competing against one's previous accomplishments and attempting to better them. Using task cards is an excellent way to present activities to students on an individual basis. For instance, the task card could have four related activities, each activity being a bit more complex than the previous one. For example:

1. Kick a stationary ball between two cones which are 20 feet away using your dominant (most adept) foot;
2. Kick a stationary ball between the cones using your non-dominant (least adept) foot;
3. Dribble the ball a short distance toward the cones and kick the ball between them;
4. Dribble the ball a short distance toward the cones, perform a foot or knee trap, and kick the ball between the cones.

By using this method, students can challenge previous accomplishments and continue to see improvement in ability. An added option may be to leave a blank number five and encourage the student to create a yet more complex task.

Indirect competition involves struggling against objective, impersonal standards. Among these standards can be a time element or an excellent score (record). The example of Team Target being structured as indirect competition in Idea #2 illustrates the time element. An example of competing against an excellent score would occur if the school kept records of individual, team, or class accomplishments:

- who jogged 100 miles in a month?;
- who threw a frisbee the longest distance?;
- who jumped rope the largest number of consecutive times?

Of course, these records could be kept in each class or grade level. In indirect competition the student or group of students works to achieve a goal while competing against an objective standard.

Direct competition is probably the most common form of competition. One against one activities, tag games, and relay races are abundant in physical education books, not to mention the array of team sports and lead-up games that abound.

An activity in which one person tries to roll a hula hoop across a finish line while another tries to knock down the hoop with a ball is an example of simple direct competition. The most complex activities from a social-interaction perspective are sports which require two or more teams to compete against each other. Once again, the teacher must constantly assess the students' readiness in terms of physical skill as well as ability to function in the competitive aspects intrinsic to a particular activity.

4. Throughout the entire Psycho-Social section the principle concerning the provision of student discussion opportunities has been emphasized. Students gain a great deal from planned and carefully implemented discussion sessions. Following each class the teacher, having formulated lesson-specific questions and ideas for students to react to, should initiate a "talk time" with the students.

5. Some students become very anxious prior to and during physical activity especially when competitive activities are part of the lesson. By allowing a few minutes of relaxation at the end of class, the stressful effects can often be reduced before returning to the classroom (this is often a good time for discussion). For more complete relaxation, the teacher should have all children lie on their backs and close their eyes. Slow,

deep breathing should be encouraged. Suggestions of calm, peaceful images to contemplate often help.

A game to play which creates different types of stress is Alaskan Soccer. Following the game, a discussion of the stress and anxiety felt by students is in order. Two teams participate in this game. Team A lines up in a straight line with the person in front kicking the ball toward the other team and then running around the other members of the team who are still lined up. The kicker must circle his team three (depending on the number of players) complete times and the whole team must be seated in order to be considered finished. The team to whom the ball is kicked is scattered about the area facing the kicker. One player fields the ball and all other players line up behind him. Once the line is formed, the ball is passed over the players' heads until it reaches the last person in line. When the last person gets the ball, she or he yells "stop" at which time the whole team sits down. The first team to sit down is the winner. The kicking and receiving team should alternate to change the stressful situation.

Exercise Physiology

The development of aerobic endurance capacity involves four basic elements: intensity; duration; frequency; mode of exercise

Why?

1. Aerobic endurance training involves rhythmic, large muscle exercise done at least 10-30 minutes daily, a minimum of 3 times per week at a pace which raises the heart rate to a level sufficient to develop a training effect. Aerobic training helps to improve the circulatory system which is responsible for the distribution of oxygen throughout the body. Efficiency and effectiveness in the circulatory system are improved through aerobic endurance training. Some specific benefits of improved aerobic efficiency are:
   a) the person is able to perform with greater ease;
   b) a greater tolerance for discomfort during endurance training is developed;
   c) a longer sustaining power for heavy workloads is developed;
   d) better performance technique is associated with improvement in endurance capacity.

How?

Learning Experiences

1. As with most physical development experiences it is always helpful to assess beginning capabilities so that training improvements are recognizable. Information concerning training progress can be used for adjustment of training variables (intensity, duration, frequency, and mode). Positive improvements are also excellent motivators for continuing training.

Briefly stated: mode indicates the type of activity used in the training process; frequency refers to the number of training sessions per week; duration suggests the length of the exercise session; intensity indicates how hard a person works in the training routine.

Aerobic endurance activities involve the large muscle groups of the body. Appropriate activities would include such things as jogging, swimming, rope skipping, bicycling, and many others. Several measurements can be made to assess the effect of the training program.

One relatively simple way to measure the effect of endurance training is to determine the pulse rate for a 30 second period immediately upon cessation of exercise. A record should be kept tallying this score (as indicated in the number of beats). The pulse rate score will be significant only if the duration, intensity, and frequency are constant. When a de-

crease in the pulse rate is noticed, a change in any one of the variables, or combination thereof, may be made and the measurement for improvement process begins again. The manner in which the training variable(s) was changed should be noted on the pulse rate record card. The carotid artery (in the neck area a few inches below the chin) typically provides an easily detectable pulsation. Note: please see the comment concerning the use of the carotid artery in taking pulses in children page 11).

Other slightly more involved but somewhat more precise measurements of training effect are also available. Various forms of step tests in which the performer's pulse rate is recorded at various intervals prior to and after stepping up and down from a bench are available. The teacher can find directions for conducting step tests in most fitness and physiology texts.

In attempting aerobic endurance work, the effective trainer determines a target pulse. This means that the heart rate is raised to a level that is necessary to bring about a training effect (threshold of training).

The teacher can aid in the determination of target pulses for children on an individual basis. This experience could provide an ideal opportunity for the physical educator and the classroom teacher to integrate their subject matter areas, e.g., students could apply their math skills to compute their target pulse rates (Werner and Burton, *Learning Through Movement** is an excellent source for many integration ideas). A common formula for determining target heart rate is as follows:

$$\text{Target HR} = \text{HR rest} + 75\% \,(\text{HR max} - \text{HR rest})$$
$$(210)$$

Example: a child's resting heart rate is 70 beats per minute; subtract 70 from maximum heart rate; for this age group, 210 = (210 minus 70 = 140). Take 75% of 140 which is 105. Add the 105 to the resting heart rate of 70 and add the two. The target heart rate for this child would be 175 beats per minute.

*Werner, P.; and Burton, E. *Learning Through Movement, St. Louis, MO: The C. V. Mosby Co., 1979.*

Exercise Physiology

The development of anaerobic endurance is best accomplished by performing many repetitions of an activity at a high intensity level

Why?

Anaerobic type activities are performed so quickly that the body cannot provide sufficient oxygen to meet the demand. Examples of such activities would be the fast bursts of speed often needed in a soccer game or running bases in baseball.

How?

Learning Experiences

1. To optimize performance improvement in anaerobic activities the student should perform the specific task for which improvement is sought.

Whereas the committed athlete may be expected to do rigorous interval work to accomplish anaerobic improvements, the student 9-12 years of age may or may not have this commitment. Therefore, the teacher should try to develop improvement on a general basis and allow students to utilize their improved anaerobic capacity in activities of their choice. An activity which would relate to this concept would be to have 4-5 persons on a team. A running course would be needed that would allow each team member to run as hard as possible for 15-20 seconds, then tag or pass a baton to the next runner and so on (relay style). Rest periods could be given while other teams ran. Individual team records could be kept which would indicate the increased distance over time or the decrease in time over a specific distance. Progression could occur over time as teacher and students felt they were ready to increase the workload.

Achievement may be determined by comparison with others, with past self-accomplishments, or with established records

Why Is It Important?

1. Most performers acknowledge three kinds of achievement in relation to their performance goal:
   a) achievements that are compared to others—winning/losing;
   b) achievements that make personal progress—individual growth;
   c) achievements that result in a certain state of affairs—feat;
2. One experience may yield three kinds of achievement.

How?

Learning Experiences

1. At the beginning of classes, when the students have had past experience with the activity, allow them to set goals for that day for each kind of achievement. As an example, in a dance activity they may try to a) outjump a classmate, b) increase distance in a jump and c) try to accomplish a new jumping form.

2. For a period of two weeks or more, have the students keep a daily log in which they record one or more of each kind of achievement.

3. Self-evaluation for the purpose of assessment should be encouraged. Self-understanding can be fostered through the process of establishing and attempting to accomplish realistic goals in various forms of movement activities.

Humanities

It is important for an individual to understand that relatively few achievements are recorded in scores when one considers the myriad experiences associated with learning and performing in sport, dance, exercise, and play

Why?

1. Performances that result in doing better are usually the most obvious.
2. Self-achievement helps promote self-identify and pride.
3. Sometimes winning is not an achievement (default—disqualification).
4. One can more realistically identify personally meaningful goals by incorporating all forms of performance achievement.

How Do I Get It?

Learning Experiences

1. Change an activity that normally relies on scoring to one in which "all" good performances are regarded. As in the game of golf, count the swings that "felt good" rather than the scoring made on a per hole basis. In striking a ball with the racquet, count the number of "sweet shots" rather than keeping a point score.
2. When presenting activities such as gymnastics, have students "contract" for improvement in specific personal choice skills rather than all reaching a standard for all basic skills. This could apply to all sport activities as well.
3. Have students "tune in" on themselves. One day, after completing some games of competition, have the students promulgate their feelings concerning their individual reactions to the activities in terms of personal successes and/or failures. The next day, plan a new activity that merges individual achievement and challenge, such as juggling, or a similar task. Have the students promulgate their feelings after experiencing that activity.

Motor Learning

The type of skill being performed affects practice procedures

Why Is It Important?

1. Practice of skills used in sports and games should emphasize consistency. This is accomplished by intensive practice under consistent, never-changing conditions.

2. Skill practice and attainment depends on the focus of attention while practicing the skill. Focus of intention can be inward or outward.

3. The ability to make proper decisions during skill performance is imperative to skill development.

How Do I Get It?

Learning Experiences

1. Teacher and students plan a gymnastics routine. For illustrative purposes a routine of a jump, forward roll, and a jump will be used. Students in small groups observe one of their classmates do the sequence. They then give feedback on the performance. The student does the sequence several times each time trying to perform the sequence in the same way. This enables the student to develop a consistent pattern.

2. Students need to practice two different types of skills, one where the attention focus is inward, the other where the focus is outward. Two examples are listed. First a golf swing has an inward attention focus. In the golf drive the attention focus should be on the position of the body and club head with relation to the flag in the address phase and on the rhythm and path of the swing in the action phase. Secondly a swing of a bat to strike a ball has an outward focus. In batting a baseball the attention focus should be on the moving ball. Teachers should select skills that have either an inward or an outward attention focus and have students practice keeping their foci at the point where skill development will be optimized.

3. In batting a ball the batter has very little time to make a decision whether to swing, where to swing, how hard to swing. Plenty of practice time is needed to react and respond to the outward stimuli. Have a partner throw a ball to another student. Mark an area or target at which the student is to hit the ball. After much practice a student can see if the correct decisions are being made by observing how close the balls are coming to the target. (Use many balls. Use balls that do not travel too far to avoid inordinate retrieval time and/or safety problems.)

Figure 5. Inward Focus.

Motor Learning

Information concerning the outcome of performance as it relates to the movement itself is absolutely necessary for performance to improve. This information is called feedback. Feedback provides information about the movement and about the effects of the movement in relation to the movement objective

Why?

1. Feedback is important because it helps the learner decide what to do differently the next time. Feedback directs adjustment in performance.

2. Knowledge of performance is information provided by the nervous system about the movement. To use this information in adjusting performance, the performer must determine whether the movement is the same as that which was intended. This requires the formulation of a plan of the movement prior to skill execution. After performance, the plan and the actual movement must be compared.

3. Knowledge of results can also be used to evaluate performance.

4. Feedback may be administered after a performance is completed or during the performance itself.

How?

Learning Experiences

1. The performer stands a challenging distance away from a three-hole target board placed against a wall. A ball is tossed underhand, aiming for the center of the target. If the first ball thrown hits in the bottom half of the target, this feedback should indicate to the student that the ball should be released higher and/or to adjust the application of force to the ball. The instructor should occasionally ask questions of each student to determine if the feedback information is sufficiently understood so that it will have carry-over value for other movement experiences of a similar nature.

2. An idea for the conceptual development of this principle would involve the use of video tape or at least photographs of movements. Take, for example, the swing of a golf club (because many teachers don't have golf clubs in elementary school physical education programs, hockey sticks and whiffle or tennis balls can be used). After focusing on a particular aspect of the swing, such as the backswing or the position of the stick when hitting the ball, practice striking the ball. A partner could observe the performer and let him know what he is doing correctly and help make suggestions about mistakes. It is often appropriate, however, for the instructor to provide the student with specific cues to observe.

3. A performer using a racket or paddle can practice striking a ball over a net three feet high. On the other side of the net a 5'

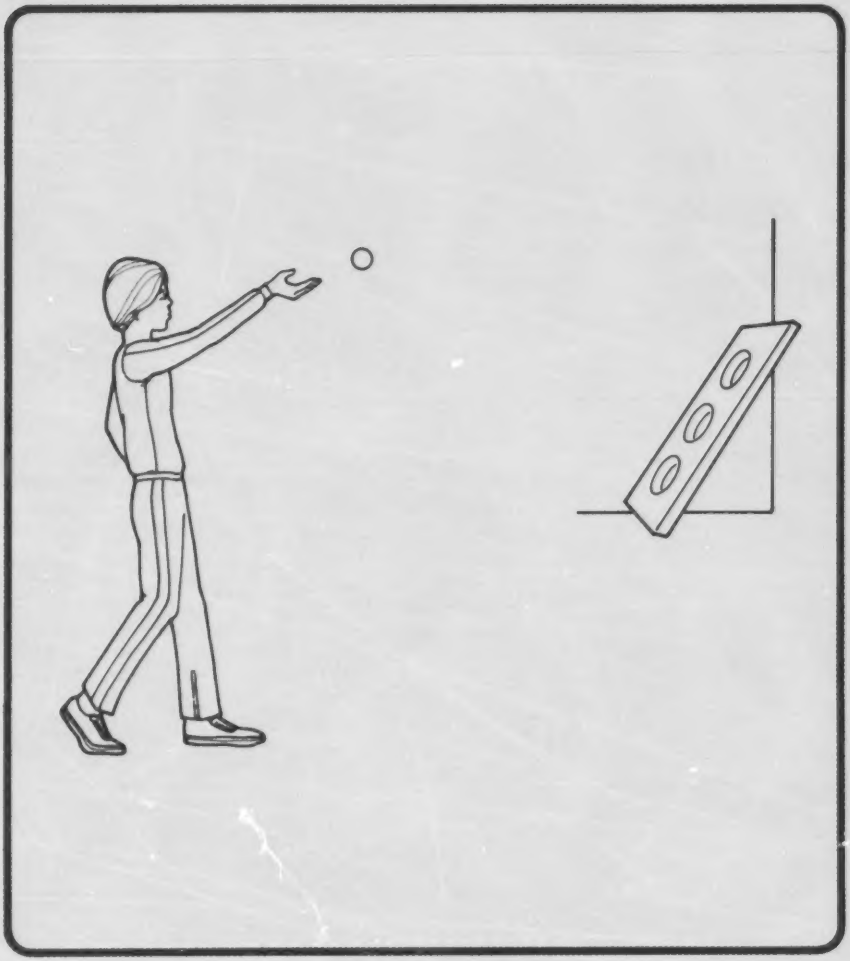


Figure 6.

× 5′ area is marked off. The task is to bounce the ball and then strike it over the net so that the ball lands in the marked area. Record the number of successful hits. If the number of hits is low, the performer will know he must change the way he is swinging or find out why he is not hitting the target and adjust his swing accordingly.

4. Bowling exemplifies feedback administration during and after performance. A performance error can be detected during the actual bowling sequence and be corrected at that time. Performance can also be adjusted after the performance by observing the number and position of pins that were knocked down. Bowling is a good activity to have students record their performance over a period of time to see if there is improvement (a variety of equipment can be used to simulate a bowling alley situation in the gymnasium — playground balls thrown at empty plastic one liter coke bottles set up as pins would be one way to improvise).

Motor Learning

How the learner practices is the key to improving performance

Why?

1. Skills which involve both speed of movement and accuracy of outcome may be practiced in ways which emphasize either or both of these characteristics.

2. Skills may be viewed as consisting of a number of segments or parts. In practicing new skills these parts may be practiced separately or as a whole.

3. The time allotted to practicing a skill may be used in one continuous block or it may be divided into a number of smaller segments.

4. Skills are usually practiced by actually doing them. However it is possible to improve skill by imagining performance. This phenomenon is called mental practice.

How?

Learning Experiences

1. An appropriate activity that provides students with opportunities for noticing differences between speed and accuracy involves the use of throwing skills. Divide students into three equal groups based upon throwing skill ability (accuracy). Have individuals in one group throw a given number of times at a target as quickly as they can. Another group will make the same number of throws as accurately as possible and a third group attempts to throw both quickly and with accuracy. Compute group totals and have students discuss possible and/or probabie causes for the results.

2. Students could compare the difference between whole-part methods of learning. Compare the lay-up shot in basketball as a single unit by practicing the lay-up in parts (the dribble, the approach, the take-off, the shot).

3. Students can chart their skill development in the shooting of a basketball foul shot. Half the class practices for ten minutes a day for 5 days; the other part of the class practices for 50 minutes, 1 time per week. Compare skill development and discuss the results.

4. Mental practice is often conducted at high skill levels; for example, a high diver contemplates each step of the impending dive prior to beginning the dive. For the 9-12 year age level the concept of mental practice may be stretched a bit by having students pretend they are throwing a ball, perhaps to check to see if they are following through. If done in this way,

the performer's focus is more likely to stay on the task of observing the follow-through movement rather than being distracted by watching where the ball goes. This type of mental practice could be conducted in many skill development areas.

Motor Learning

Practice methods which work for one type of skill are not always equally effective for other types of skills. Practicing in ways that are inappropriate for the type of skill to be learned can negatively affect future performance. Practice methods must be appropriate for the skill to be learned

Why?

1. Practice of open and closed skills must reflect the different demands if the time and effort spent in the practice is to be worthwhile.

2. Closed skills demand consistent, habitual movement.

3. Open skills demand rapid discrimination, interpretation, and anticipation of constantly changing events. The movement must be adapted to the situation of the moment.

How Do I Get It?

Learning Experiences

1. Set high jump bar at practice height for the particular individual. The student practices jumping using the same form each time a jump is made. Other students should observe and correct.

2. Have two students practice kicking a ball back and forth to each other while moving forward. When movement starts to be consistent, place the same two students into a small game situation where they are using the same skills but where there is a person trying to take the ball away from them. Have students discuss the problems presented by the presence of an "interceptor" and the strategies needed to be successful in this situation as opposed to performing the skill without interference.

Motor Learning

In order to develop movement skills, the instructional behavior of the teacher should provide information to students concerning input, decision-making, output, and feedback of the skill being performed

Why?

1. When performing in a physical activity the performer must first be provided with information about the situation in which movement decisions are to be made. This information determines how the performer will react and perform to given stimuli.

2. In order to make the correct decision when performing in a skill situation, one must analyze and interpret the available information with reference to past personal experiences and to the observed past experiences of others. The performer then determines the available options.

3. After a performer makes a movement decision, feedback is received concerning the affect the movement had on the desired outcome.

How?

Learning Experiences

1. Activities that can help students to observe the environmental situation should be provided. Divide students into two groups; one student with a ball; the other with a bat. The thrower determines the kind of pitch to be thrown. The pitch may range from a fast ball to a curve. The emphasis is on the batter determining the speed and spin on the ball in order to hit it. Have students indicate the cues they used to determine information concerning speed or spin on the ball.

2. Three offensive players start at the center line of a basketball court. Two defensive persons are in the free throw area. The center person with the basketball dribbles to the free throw line where a defensive person tries to stop the person's progress. At this time the dribbler must determine which teammate to pass the ball to or decide if a shot should instead be taken. The dribbler must immediately make a decision about the situation. Ask students to identify the movement input which caused them to make their decisions.

3. A student stands 15 feet away from a can balanced on an object three feet off the ground. After several throws, the student's partner who has been observing, makes suggestions on how improvement might occur. Students take turns observing each other and giving feedback.

Motor Learning

Before evaluation can occur, performance must be measured

Why Is It Important?

1. To keep track of improvement and to find out what should be emphasized in practice, it is necessary to evaluate performance.

2. In evaluating performance it is possible to compare a person's performance to the performance of others of similar age and sex.

3. Since each individual learns at his own rate, it is best to compare present performances with past performances.

4. One aspect of skilled performance related to evaluation is adaptability. Adaptability is the ability to perform under a wide variety of situations. A high level of adaptability is regarded as a significant attribute of the skilled performer.

How?

Learning Experiences

1. Students keep notebooks recording their skill development. The notebook should record improvement over a length of time and should include self-evaluation and evaluation by classmates.

2. This would be a good place to utilize the President's Physi cal Fitness Test. Also include the comparison charts on age and sex from these sources.*

3. Performance is measured by assessing the identifiable outcomes of movement in one or more aspects: accuracy; distance; speed; time; height; weight. Teachers can help students see their improvement by having students keep records on particular activity performances. For example, if students are working in the area of track and field, a chart could be kept on improvement in time on the 50-yard dash, improvement in distance in the broad jump, or improvement in height in the high jump. Several assessments during the year are necessary to determine the degrees of change. To visualize a good picture of how performance may change from time to time, students may want to learn how to plot a performance curve. Such a curve is explained in the Motor Learning booklet of the Basic Stuff Series I, Chapter Five.

*AAHPERD Fitness Manual, available from AAHPER, 1976.
Youth Fitness Test (President's Test), available from U.S. Government Office, Washington, D.C., 1973.

4. In assessing adaptability, an individual's performance is recorded according to the conditions under which the individual participated. For example, test the results of throwing and catching accuracy in different environmental conditions such as outdoors and indoors. Also experiment with throwing and catching with someone trying to take the ball away from you such as in a "keep away" game.

Kinesiology

Balance depends upon the height of the center of gravity, direction and size of the base of support, and the location of the line of gravity over the base

Why?

1. Lowering the center of gravity provides for increased stability.

2. To move quickly in a known direction, the center of gravity is raised and moved toward the edge of the base of support in the direction the movement will occur.

3. To move quickly in an unknown direction the center of gravity is kept relatively high and the base of support, reasonably narrow.

How?

Learning Experiences

1. Define appropriate balance terminology. Have children work in partners, each one having a chance to be the "pusher" and "pushee" (work on a soft, protected surface — see Figures 7A-D). Ask "pushees" to demonstrate positions such as "high center of gravity" and "low center of gravity". Have "pushers" use varying degrees of pushing effort to dislodge pushees. If possible, do the same thing with all three principles mentioned above. Rotate pushee, pusher roles.

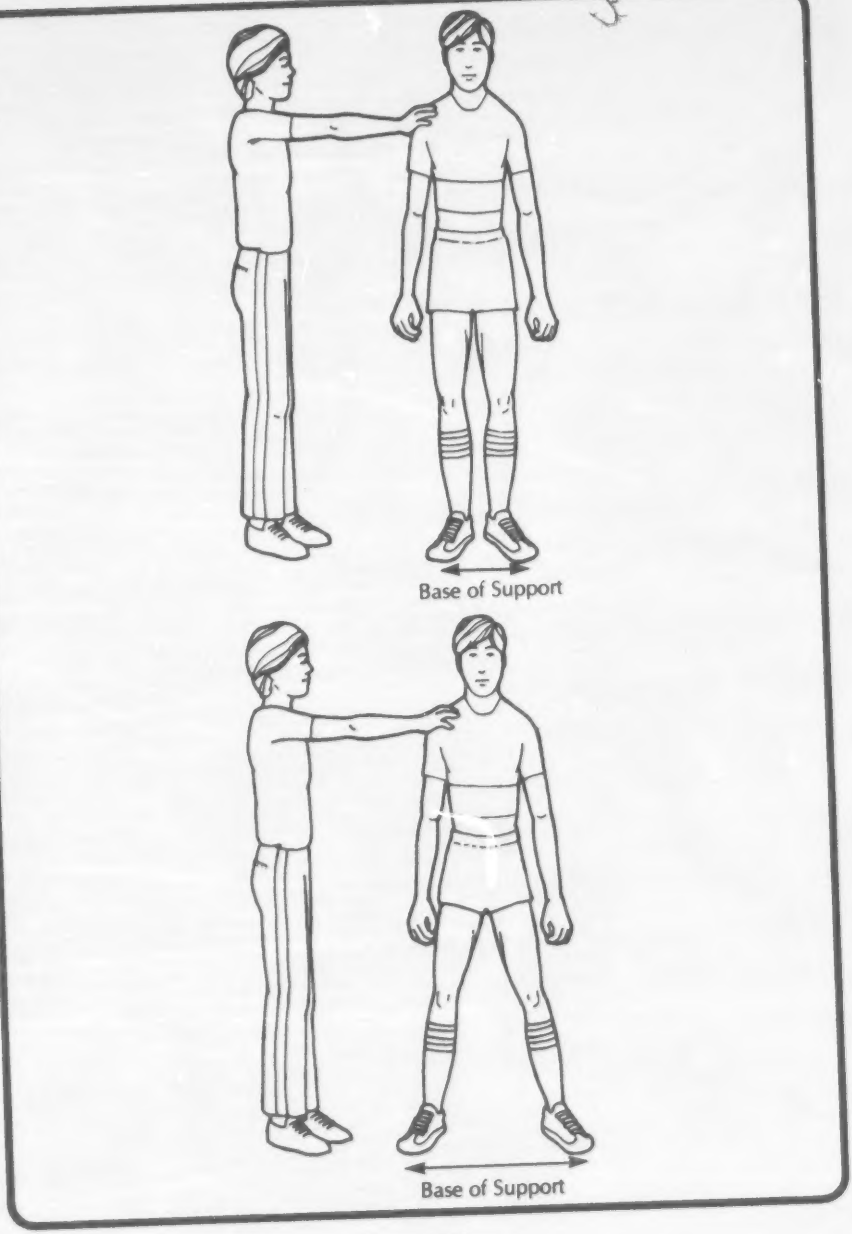
2. Have children position themselves on balance beams and benches or other similar apparatus and try the same combinations, noting which are more difficult and with which they are more comfortable.

3. Have children raise their centers of gravity by walking on tin can stilts and performing various maneuvers: walking forward; sideways and backwards; going over, under, and around obstacles.

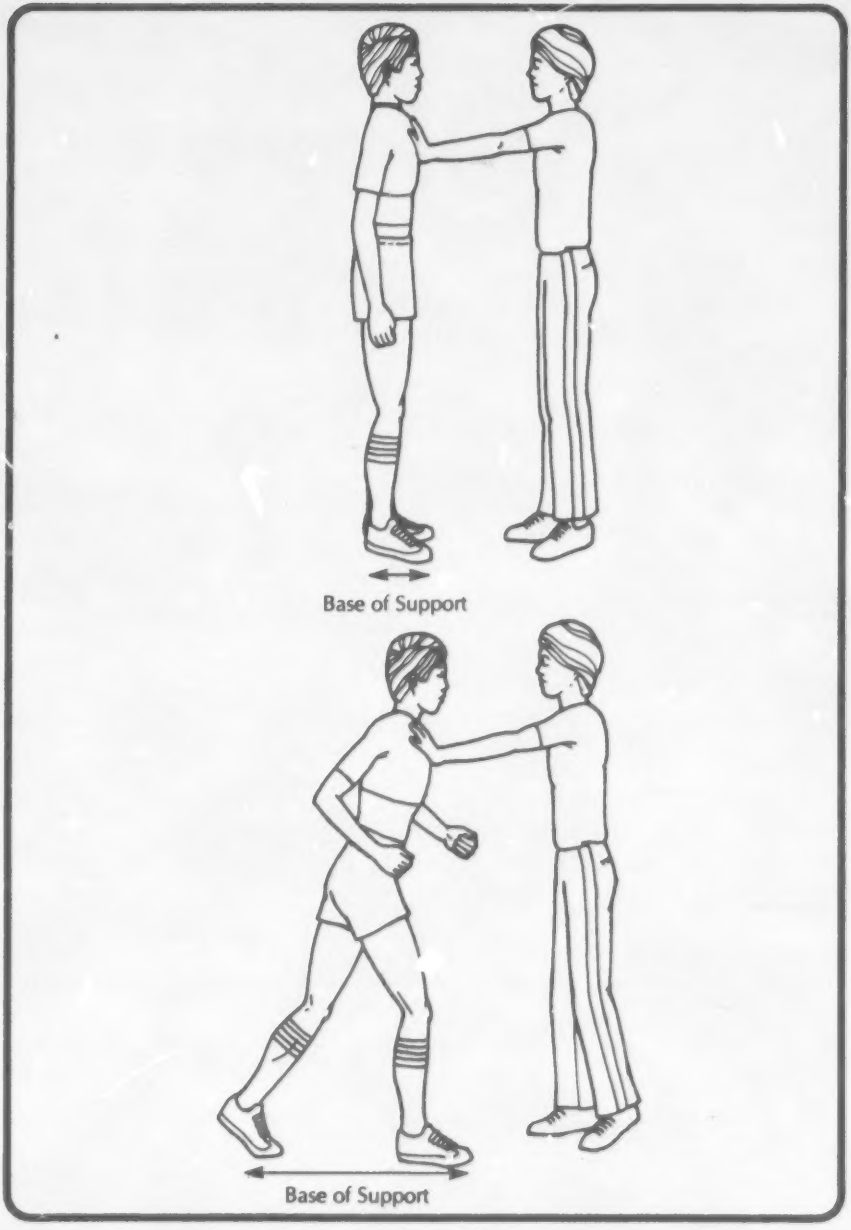
4. Contrast the sprinter's "set" position with the "take your mark" position for efficiency of racing starts. Ask students to identify the location of the center of gravity in relation to the base in each position (see Figures 8A and 8B).

5. Have partners take turns being "goalie" for a fairly small goal area into which a partner will roll a ball. As goalies demonstrate their ready position, have the "roller" analyze the goalie's approximate center of gravity location and the size of the base of support. The goalie's partner (the "roller") will then attempt to roll balls past the goalie based on perceptions of the goalie's potential to react.

C8

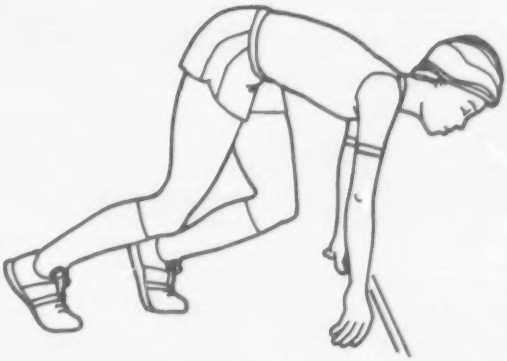


Figures 7a-b.



Figures 7c-d.

"Take your mark".



"Set".

Figures 8a-b.

Effective body positioning is important for the absorption of force of an approaching object

Why Is It Important?

Principles Involved

1. Increase the distance of the receiving area by reaching toward the object, bringing hands and arms in toward the center of the body when the object is contacted, and shifting body weight backwards.

2. Increase the size of the receiving area.

How?

Learning Experiences

1. Show the importance of "give" for control (less rebound) by throwing a ball against the wall and then into a loose net. Have children throw balls up to themselves and catch them without making a sound. As the balls are tossed progressively higher, encourage the use of the whole body in the "giving" action.

2. With a larger ball (even beach ball size), encourage using forearms as well as hands to catch a ball. A significant "giving" (absorption) distance will be required to make successful catches.

Working with a partner, gradually move farther away from your partner after each successful catch of a water-filled balloon.

Contrast the use of a softball glove as compared to catching bare-handed. Have students explain the function of the glove's webbing in relation to the concept of absorbing force.

Kinesiology

A projectile moves under the influence of the projecting force, friction, gravity, and air resistance (also called fluid resistance)

Why?

1. Size, shape, surface, and speed of movement of a projectile affect the amount of fluid resistance.

2. The movement path of an object is determined by its speed of rotation and its projected velocity.

3. A spinning object will rebound from a surface in the direction it is spinning.

How Do I Get It?

Learning Experiences

1. Gather objects (especially balls) which vary as greatly as possible in size, shape, and surface texture. Roll each down a ramp or hill and note its stopping place. To observe the effects of the speed of movement, roll an object twice, but start it at very different places on the incline. It might be possible to use a playground slide to demonstrate air pathways when the objects leave the slide.

2. The effect of spin will be less on a fast-moving ball than on a slow-moving one. The effect of the spin will be seen earlier on a slow-moving ball. This phenomenon can be physically experienced in the bowling type release of hard combination rubber bowling balls used in elementary school physical education classes.

3. Roll hula hoops with backspin so that they return.

Bounce a large ball to a partner by directing it to one side and imparting spin so that it bounces to the partner at an angle.

Throw a ball against a wall while imparting side spin upon its release. Moving in the direction of the spinning action will cause the ball to rebound after it strikes the wall.

Kinesiology

An accurate, appropriately forceful, projection of an object is affected by muscle contraction, projection velocity, point of application of force, angle of projection, external forces, contact with the ground at the moment of projection, the length of an implement, the length of the backswing, and the number of body parts used

Why?

1. Use as many of the muscles as possible which will contribute to movement in the desired direction and reduce tension in muscles which do not contribute in any way to the desired movement.

2. Contract a muscle throughout its full range of motion to develop maximum force.

3. Include muscle contractions in the lower extremities for maximum force because motor units of the lower extremities contain more muscle fibers than those in the upper extremities.

4. Contract muscles in the proper sequence to maximize a projecting force.

5. Increase projection velocity to increase the distance that a projected object will travel.

6. "Follow-through" with any projection motion to facilitate appropriate velocity.

7. Apply force off-center of the object to create spin.

8. Reduce the angle when a projection is made into the wind.

9. Increase the angle of projection when the wind is at your back.

10. Use different angles of projection with different: velocities at release; heights of release; sizes and shapes of objects.

11. Maintain firm contact with the ground for maximum force.

12. Improve accuracy by reducing: the length of the implement (if any); the length of the backswing; the number of body parts that are used.

How?

Learning Experiences

1. Throw a frisbee for distance, at first limiting the throw only to the fingers and gradually adding other parts until the whole body is used.

2. Serve a volleyball (or other lightweight ball) underhanded using a full backswing and then a half backswing.

3. Put a shot or medicine ball using arms only and then again using contraction and extension of the leg muscles.

4. Serve a handball (or tennis ball) against a wall with the hand in an underhand style by allowing the elbow and wrist to follow the contraction at the shoulder.

5. While punting or kicking a stationary ball, practice using different speeds of the kicking leg and note the distance the ball travels.

6. While clearing a badminton shuttlecock to the opponent's back line, try stopping the swing immediately after impact, then follow-through with the swing and observe the difference in the distance travelled by the shuttlecock.

7. Practice hitting a large suspended ball, e.g., a tetherball, so that it spins when it hits. Also notice where it must be hit to travel without spinning.

8. On a windy day, practice throwing large balls for distance (soccerballs, volleyballs, footballs). Measure the distance the ball travels when it's thrown with a flat trajectory into the wind as opposed to when it's thrown with a high arc trajectory. Try the same thing but throwing with the wind.

9. Contrast the following objects thrown in the following situations to determine the optimal angle of projection when maximum distance is required:

a) a softball pitched underhand fast and a softball pitched underhand at different velocities;
b) a basketball thrown with one hand and a basketball thrown with two hands underhand—different heights of release;
c) a javelin (or broom handle) thrown with one hand and a football thrown with one hand—different sizes and shapes of objects.

10. Try throwing any object for distance. Measure differences obtained when throwing while maintaining contact with the ground as opposed to throwing while airborne.

11. Practice hitting a shuttlecock (or ping-pong ball) into a trash can with a badminton racket from a distance of 7 feet in each of the following situations:

a) holding the racket at the very end and holding it in the middle of the shaft;
b) using a full backswing and using only a partial backswing;
c) using the whole arm and taking a step with the hit, and, using mostly the forearm and wrist without taking a step.

Motor Development

Efficient movement maximizes performances

Why?

1. Physical performance and skill performance are interrelated.

2. Skills performed efficiently utilize less energy.

How?

Learning Experiences

1. Discuss, with the use of audio-visual aids, what efficient movements in sports activities look like.

2. Cut movement pictures from newspapers or magazines which depict good form and make a collage or bulletin board.

3. Have students perform exaggerated movements in order to experience the need for various body parts in specific skills. For example:
   a) run with no arm swing;
   b) jump without bending knees or swinging arms.

4. Have students repeat skills mentioned in #3 above but then have them use an effective arm swing in running and flexed knees in jumping in order to experience the benefits of proper body usage.

5. Have students select a piece of equipment (ball, hoop, bean bag, etc.) and work on a skill which can be performed a certain number of times without missing.

6. Students develop a sequence of three or four tricks. Have other students observe this to determine which tricks were performed efficiently without wasted energy. Students should explain quite specifically why the movements were not efficient and how they could be done more efficiently.

Motor Development

To participate successfully in sports or dance activities, the performer must develop basic skills

Why?

1. Basic skills are made up of fundamental movement patterns.
   a) Locomotor skills
   b) Non-locomotor skills
   c) Manipulative skills
   d) Perceptual-motor skills

2. To develop good basic skills it is necessary to be fit, have instruction, and practice.

How?

Learning Experiences

1. Select a game students like to play. Write down and discuss the basic skills involved.
   a) Have students work on performing the basic skills and see in which skills they need improvement.
   b) Have students recognize their level of performance through skill tests.
   c) Have those students who perform the skills well work to help those having problems. Analyze what each student needs to work on and be specific in the feedback provided.

2. Teach and practice different dance steps from easy to complex. Have students select the steps they wish to incorporate into a dance routine and have them choreograph their own movements.

3. Teach basic rolls and balances in gymnastics. Have students select the movements they can accomplish through practice; then develop a routine. Provide easy stunts as well as more difficult stunts or movements so that all students can participate successfully. Partners or groups may be used. Partner performances can be identical or in contrast to one another. Have students break down and identify the basic skill components of all of the activities above.

Motor Development

Perceptual-motor skills and kinesthetic awareness should be developed before complex physical skills are attempted

Why?

1. Successful participation in physical activities is dependent on the development of sensory and perceptual-motor factors.

2. The development of body awareness, spatial awareness, and balance, aids performance in complex skills.

How Do I Get It?

Learning Experiences

1. Discuss with students that sensory and perceptual-motor factors play an important part in enhancing their participation in physical activities.
   a) Give students some simple sensory and perceptual-motor tests to assess their capability (see Item #2 below for examples).
   b) Make students aware of problem areas and provide suggestions in the form of activities so that they can practice to improve their problems.

2. Other activities might include the following:
   a) Balance—walk forward, backward, and sideways on a balance beam. Balance on one foot with eyes closed. Balance on one knee while picking up a piece of folded paper.
   b) Laterality and Rhythm — jump to one foot, alternating feet. Hop on one foot; alternate feet. Skip.

   Hop and jump in different patterns
   - one foot—two feet;
   - two feet—one foot;
   - one foot to one foot to two feet.

   c) Play the game, "Coach says". Have students work in pairs and have one student mirror the movements of another. Students engage in follow the leader type activities based on producing mirror reflections of athletic type skills. These activities are good for developing modeling and analyzing skills.
   d) Eye, hand-eye, and foot-eye control skills need to be practiced. These skills can be gained by playing simple tether ball games, hitting a ball with a paddle, kicking a stationary ball or a moving ball, and catching objects of various sizes from various distances.
   e) Spatial Awareness — can be taught by moving in-out, over and under, and around and through objects while moving through space. For example:
   - throw at a stationary target while moving in space;

- throw at a moving target while moving in space;
- run and catch a ball the student or someone else throws in the air (forward, backward, catch with arms extended and feet in the air, etc.).

Motor Development

Skill improves with practice but only when the body is ready

Why Is It Important?

Individuals will acquire improvement in their movement patterns at different times (individual readiness). A person should not expect to be the best at every skill, but, with supervision and practice, skill improvement will come.

How?

Learning Experiences

Discuss with students the individuality of physical ability and the different rates of development.

a) Have students practice bouncing or dribbling the ball, and observe which students dribble well and those who require help.

b) Describe appropriate developmental activities to those students having problems and to those who need more challenge.

c) Ask students to practice and see if they can show you some improvement before class is over. Have students share their "teaching ability" with their less skilled peers. Encourage students to practice at home so that they can show how productive their home practice was when they next meet for class.

Motor Development

A knowledge and application of the laws of motion and stability are important in skill development

Why?

1. The Laws of Motion govern the ways in which we propel objects (including our own bodies) through space.

2. Laws of Equilibrium (balance) reveal how we can make our bodies as stable as possible.

3. Laws of Motion govern the skills of absorbing force, such as catching a ball, landing from a jump, or falling on the ground.

How?

Learning Experiences

1. Movement activities involving propelling:
   a) Students select an object to work with and practice propelling it in the air. Have them use their hands in different ways, also using head, knees, foot, etc., to make the object go in pre-determined directions. Have students make up original games to challenge themselves in these efforts.
   b) Discuss with students the need for developing "follow-through". Explore the various release angles needed to propel an object to a desired point and show how the body must automatically move to a position of "readiness" for whatever reaction the next moment will require.
   c) Discuss and have students demonstrate and practice body positioning in relation to producing a propelling force. Students should recognize that body parts must flex prior to using a dynamic extension to bring about propelling movements.
   d) Have students move on and off, over, in and out, or around the equipment by propelling themselves in the air. After propelling themselves into the air have them assume different shapes while airborne.
   e) Have students try different directions of take-off and landing, e.g., forwards, backwards, and sidewards. Propel the body into space and absorb landing force via a "giving" of body parts (bending at knees) and a rolling action to dissipate the remaining force.
2. Activities for developing stability are as follows:
   a) Have students determine how many individual body parts on which they can balance (foot, knee, seat, stomach, etc.).

b) Have students make different shapes while balancing on narrow and wide bases of support. Discuss the above activities in relation to determining which base of support is most appropriate for each activity. Ask questions about ideal support bases for activities not done in class in order to evaluate if a cognitive understanding has been attained.

c) Students who show a readiness for complex level balance work can work with a partner. One student allows his partner to gradually take all of his weight as they develop a sequence of balances.

d) Students may play games of losing and regaining balance such as:

Partner Pull (2 partners—1 rope or hoop).

Directions: Put rope on the ground in straight line between partners. Partners grasp hands and place dominant feet together; on signal each partner attempts to dislodge the other from a balanced position. The partner push game works basically the same as above.

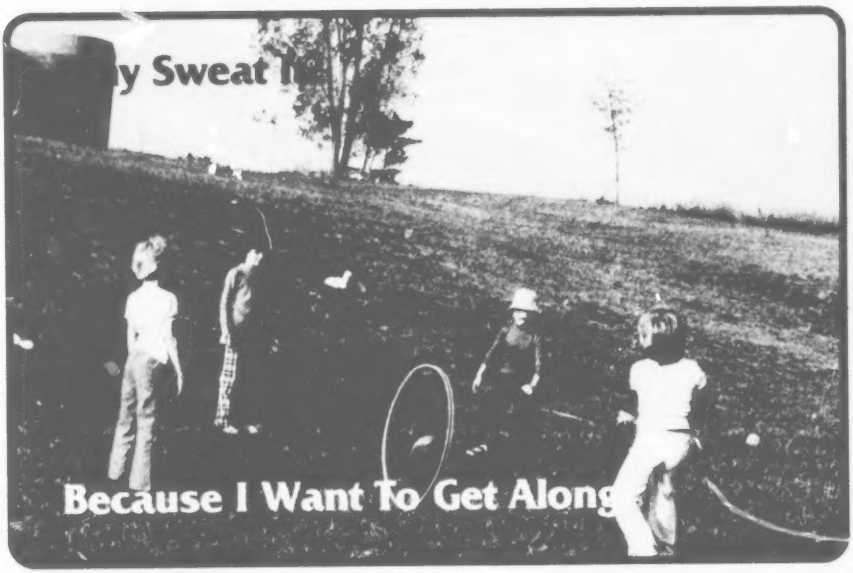
3. Absorbing force in catching can be learned via use of the following:

a) Have students work with a ball by propelling it straight up in the air and then catching it. Have students try to make catches at high, middle, and low levels. Ask them to have the ball hit their hands softly. Question them concerning what they must do in order to have the ball land in their hands quietly and softly.

b) Working with partners, have each watch to see if his partner "gives" with the ball as it is caught. See if the partner can catch the ball without making any sound. Students should make suggestions to their partners, if necessary, to have them successfully achieve the task.

CHAPTER FOUR

psycho-social



Psycho-Social

People need to feel acceptance by their peers

Why Is It Important?

1. Belonging and feeling important are significant human needs and may be met through participation in physical activity.
2. Cooperative endeavors increase camaraderie.
3. Many competitive settings encourage aggressive behavior. Teachers need to help prepare the student to handle feelings of aggression in positive and constructive ways.

How Do I Get It?

Learning Experiences

1. The Human Machine is an activity which can be used to illustrate getting along with others. Three or more students can

be involved in forming each machine. One student begins making a movement (walking, tilting head from side to side, etc.). A second student joins in to create the second coordinated part of the Machine and so on. Music can provide a rhythm to help "harmonize" the movements.

Shadowing and mirroring experiences can also be useful toward concept development. "Collective efforts" is another appropriate developmental activity idea. For example, students take turns jumping from a springboard for distance. Each effort is measured, added to all others, and the total distance is reported. Another example entails stretching a rope between two volleyball standards approximately six feet high (depending upon skill of the group). The whole team must work together to get over the rope. Once over, one cannot return to provide assistance. The object is to get the whole team over the rope. Again, a multitude of activities can help with this concept. *The Cooperative Sports and Games Book** contains many excellent ideas suitable for gymnasium and classroom use. Again, class discussion can be used to relate school, family, and even governmental relationships to the activity.

2. Cooperative type activites offer abundant learning experiences. They help students think about and appreciate working together toward common goals. The chance to blend social studies subject matter with the physical education lessons is also manifested. For instance, what happens when nations fail to cooperate with each other? What occurs at home when family members help each other? How do laws help people cooperate?

Two different levels of cooperative interaction exist. One level simply involves acting upon environmental aspects. Participants do not work with others directly but share the same environmental boundaries. Therefore they must move in total awareness of others, constantly realizing that they are sharing space. An example would be a dance lesson where students are exploring directions in space. As they move about the designated area, they must not touch other class members. They should attempt to utilize all available space as they explore the various spatial directions.

The other level of cooperative interaction involves two or more participants working together to accomplish a mutual goal. Many games and activities can be used to illustrate this

*Orlick, Terry. *The Cooperative Sports and Games Book*. New York: Pantheon Books, 1976.

stage of interaction. Ideas mentioned in Item # 1 in this section are good examples.

3. Inherent in all competitive team sports and games are cooperative elements. This interaction occurs mostly at the intra-team level. Teammates work together in a positive way to hopefully achieve a common goal.

Flag Grab is a game in which cooperative and competitive elements are quite apparent. Two teams of equal numbers play this game in an area which is about fifty yards long and about 30 yards wide. Each player must carry a flag in his rear pocket. One team begins on offense, attempting to protect their flags and uses team strategy to cross the score line. The defensive team tries to grab the other team's flags. Any rough play (hitting, kicking, pushing, etc.) will place the player in the "penalty box" (PENALTY: take both shoes off and put them back on before returning to the game or have other agreed upon "penalties"). Points are scored when players cross the goal line still carrying their flags. Individual skills and teamwork are really more apparent in this game than who is the victor.

Humanities

Experiences in sport, dance, exercise, and play provide many possibilities for encounters with others and require dynamic relationships in competition and/or cooperative activities

Why Is It Important?

1. Sports, play, and dance serve as a micro-society for the child.

2. Acceptable behaviors need direct experience in practice as they are not inherent in any activity.

How?

Learning Experiences

1. To encourage better observation as well as "person sensitivity", use a silent dance/game approach. Allow no verbal communication, only facial and body actions and gestures can be perceived as cues for communication. Try this in both cooperative and competitive situations. Discuss the students' reactions. Was the reaction different in the two situations? Discuss.

2. While in a play, sport, or dance situation, assign roles to be carried out while engaged in the activity. In this "role playing" technique, such assignments could be negative roles, e.g., the completely selfish player, or the always aggressive group member. Positive roles could be the sharing or encouraging person. It would be a good idea to assign the role to the student who is normally farthest from displaying that characteristic. Have the student playing the role discuss how the role "fit". Have others in the group discuss their reactions to the "new person".

Humanities

Sportsmanship in competitive athletics requires being and discovering a worthy opponent

Why Is It Important?

1. Opponents need to be relatively equal for a genuine contest.

2. Opponents must demonstrate respect for their competitors.

3. Athletes often credit their opponent's performance as a motivating factor for personal excellence.

How Do I Get It?

Learning Experiences

1. As a teaching strategy when assigning groups for competitive activities, conscientiously choose students of similar competency. Do the opposite when grouping students in cooperative activities. Be sure students are aware of the goal differences in these assignments as well as the differences in skill ability.

2. Prior to a class period of cooperative activities and competitive activities, have students discuss examples of cooperative effort necessary for success. In competitive activities, discuss and agree on the rules, conduct, and attitudes appropriate to the activity. Such discussions in cooperative activities could involve maximizing the enjoyment by avoiding conflict and replaying points if there is a question of fairness or suggesting techniques to opponents to improve skill and strategies. In competitive activities, discuss such things as cheating, which diminish the contest in some way.

3. In cooperative and competitive activities, provide all students with experience and understanding of the official's responsibility. Discuss pre- and post-activity time, the difficulties associated with monitoring an activity for fairness and safety concerns, and the inappropriate behavior of contestants and spectators.

CHAPTER FIVE

aesthetics

Psycho-Social

Life is enhanced when one experiences increased awareness of self. Physical activity is a prime vehicle toward experiencing a multitude of new sensations and expanding awareness horizons

Why Is It Important?

Principles Involved

1. In order to "turn on", one must becon. .ntrospective and recognize the need for "letting go".

2. The body needs to be physically conditioned relative to the activities in which it will be involved.

3. The activity must offer a challenge and have significant relevance to the student.

How Do I Get It?

Learning Experiences

1. Exposing students to activities which encourage self-expression will help develop this concept. Modern educa-

tional dance and gymnastics based upon Laban's movement framework can offer endless ideas for self-expression. Role play and mimetics help to complement self-expression by permitting a person to use the imagination and be something or someone other than self. These activities tend to free the person much more than traditional sports and games where only specific movements are expected. An idea which can elicit expression is a non-verbal movement skit. A small group of students get together and select a theme (dance, Star Wars, Olympics, ice skating, a sport, etc.). Then they work together to create a movement skit which will portray a certain idea. Each group should be given a chance to present their skit before the class.

Introducing students to some basic yoga and relaxation techniques can help them with letting go. After strenuous exercise, a few minutes of sustained stretching and quiet relaxation can be a very positive ending for the class session.

2. Structure lessons to include all skill levels. For instance, a member of a fifth grade class is the goalie for a local youth soccer team and his skill level is more proficient than the rest of the class. Design activities which will involve him in a challenging way while his talent assists others in improving. Perhaps have an activity in which he is goalie against three or four students as they practice shots on goal.

The before and after school activities suggested in Chapter One would offer additional opportunities for students to seek physical activity. Also, students may wish to pursue quality youth sport programs as well as dance and gymnastic training. The teacher should have an awareness of such programs for guidance purposes.

3. Incorporating adventure and high risk experiences into the curriculum can offer much challenge. Many activities are very feasible as long as student safety is the highest priority. Cargo nets, ropes, gymnastics equipment, stilts, circus balancing balls, and many more items can provide the basis for exciting and challenging activities. The experience should be complex enough to provide challenge, yet simple enough to provide success.

Example: rope climbing — a small group of students attempt to support themselves on one climbing rope. In order to accomplish this, some students have to climb the rope higher than others. Group decision-making comes into play.

Example: tightrope walking — stretch a rope very tight between two firm attachments (walls, bleachers, any permanent piece of equipment). Initially, raise rope about one foot from

the floor or ground and gradually increase height to a reasonable level as students gain experience and skill. Allow for peer assistance as they travel the rope. The walker should hold the hand of the helper, not vice versa.

Aesthetic interpretations are based on prior learning and cultural values

Why?

1. Subjective aesthetics includes synthesis of sensations (visual, kinesthetic, auditory, etc.) from one moment to the next. It is the special feeling that is immediately known by the performer.

2. In the objective aesthetic realm the spectators rely heavily on visual observation for their interpretation but some attempt to observe with all senses; seeing, hearing, smelling and feeling movement qualities are experienced by the performer.

How?

Learning Experiences

1. While performing, students attempt to communicate their consciousness of the performance as it is experienced. While performing a gymnastic feat a student is encouraged to "talk through" thoughts and feelings.

2. Students, through verbal and non-verbal art forms, describe their kinesthetic awareness of the skills performed. As an example, after a successful performance following many trials, the student could describe in writing the feelings of the perfect moment of balance, speed, power, and poise; or, the student could demonstrate the feeling through color and design.

While aesthetic content of movement is open to personal interpretation, fundamental artistic tenets are available. However, these tenets are not necessarily obvious to everyone

Why?

Principles Involved

1. To gain greater insight into the aesthetic potential of an activity, students need to reach a skilled level in some activity.

2. Aesthetic appreciation is a skill to be learned.

3. The skill of aesthetic appreciation requires more than sensory experiences and more than knowledge of aesthetics.

4. Moving is an important aspect of being a creative, expressive, loving human.

How?

Learning Experiences

1. To be "turned on" to a form of sport, dance, exercise, or play, a student must have ample time to practice and excel. Class should provide enough time for individual choice of activities and frequent practice time. Students "turned on" to an activity could be permitted extra time to practice during the school day (after school activities) and encouraged to find a group in the community where participation is possible.

2. After skills are learned and practiced, students need to experience serving in a judgmental capacity of others in movement performances. Critical skill criteria should be set by the class. Gymnastics, tumbling, dance, and spectator sports lend easily toward this purpose.

3. Students need to find the meaning of personal movement experiences through various techniques of self-examination. At this age level, when choices of various activities are given, students should reflect the basis of their choice, e.g., to be with friends, to have fun, to try to meet the challenge, to avoid an unpleasant task, etc. The prerequisite to such analysis is moving, playing, dancing, etc. When the activity session has been completed, a discussion should follow based on how the students felt about the activity.

Examples: how did friendships add to the enjoyment? What was fun about the activity? What was the real challenge?

CHAPTER SIX

coping

Psycho-Social

Participating in regular physical activity augments survival skills

Why Is It Important?

1. Becoming addicted to exercise is not as prevalent as not being involved at all.

2. Activities spanning a wide array of movement contexts should be offered.

3. Initially a student needs guidance and encouragement to develop an ultimate inner confidence and desire in order to seek activity without relying upon others to be initiators or partners.

How Do I Get It?

Learning Experiences

1. Balance is the key to a well-rounded personal total fitness program. Important components to consider are cardiores-

piratory endurance, muscular endurance, muscular strength, flexibility, and skill proficiency. If a student chooses jogging and jogs four times a week for approximately thirty minutes per session, certain components are adequately met: cardiorespiratory endurance; muscular endurance (legs); muscular strength (legs). However for a total program the student needs to include flexibility, and activities emphasizing muscular endurance and strength in the other muscle groups of the body.

2. In Chapter One, an inventory form to determine the movement likes and dislikes of each student was suggested. This instrument can also be used in a way that can complement this Learning Experience. By asking students to indicate their three favorite and three least favorite activities, the teacher can pool the interests of the class and hopefully offer adequate instruction in the most popular activities. By doing this, student skill levels can be increased to a point where the pursuit of an activity on a regular basis is more probable and more enjoyable.

3. Students should be encouraged to seek activity of their own volition. This does not discount the importance of learning to work and move in accordance with other people. However, once an adult, individual motivation becomes increasingly more necessary due to time schedules, family responsibilities, and the like. Each student must realize that the locus of control for initiating and engaging in an activity program is within each person.

To help develop this concept, teachers need to incorporate individual activities and games into the curriculum. Jogging, track and field events, swimming for fitness, and individual rope jumping activities constitute some examples. Equally important is getting across the concept of being a self-directed mover. Many students who only participate in team sports throughout their school years are in for quite an adjustment once they complete their schooling.

Here again, the inventory form can be a useful tool as the teacher tries to deal with this concept. By separating individual partner and team activities, the teacher can get a tally on which individual activities are most appealing to the students, as well as which are the least attractive to them.

Exercise Physiology

Living in a modern world sometimes requires a person to be able to survive emergency situations.

Why?

Cardiovascular endurance and/or muscular strength are primary physical requirements needed to survive many emergency situations.

How?

Learning Experiences

Most emergency situations occur unexpectedly and people in trouble mu t respond within their range of personal capabilities. As indicated above, muscular strength and cardiovascular fitness are often essential ingredients for overcoming some types of emergencies. The teacher should make students aware of exercises and activities which will help to develop strength and endurance in all major muscle groups. Students should learn that positive physiological changes in strength and cardiovascular fitness are not likely to occur in two day per week or less physical education classes. Physical education homework is absolutely necessary for optimal physical development. For motivational purposes students should be encouraged to keep individual records as to strength and cardiovascular improvements.

One way to stimulate reaction to the survival concept is to play the "Hang On For Dear Life Game". Using the high bar, chinning bars, window sills, or a horizontal ladder, have students progressively increase the number of seconds they can hold on until their individual partners ("firefighters") can get to them with a net (imaginary) to save their lives. One partner begins a still hang, with feet off the ground, on any of the equipment mentioned above. As soon as the hang begins the "hanger's" partner starts running away. The partner attempts to get as far away as possible before the "hanger", who has now almost exhausted all hanging strength hollers "help, save me!" Upon hearing those words, the partner runs back as fast as possible to touch (save) the "hanger", before the hanger's feet touch the ground. The roles are then changed and the "firefighter" becomes the "hanger". It should be mentioned that the hanging position is a static stretch position which is often a very good exercise for the spine and back muscles. A competitive psychological sustaining power is also developed. The game also offers indirect or direct competitive experiences if appropriate for the children involved.

Other activities to develop this concept include carrying or pulling a peer to a safe distance from an imagined unsafe envi-

ronment; and having students negotiate a course which has numerous obstacles requiring the use of strength and/or cardiovascular fitness.

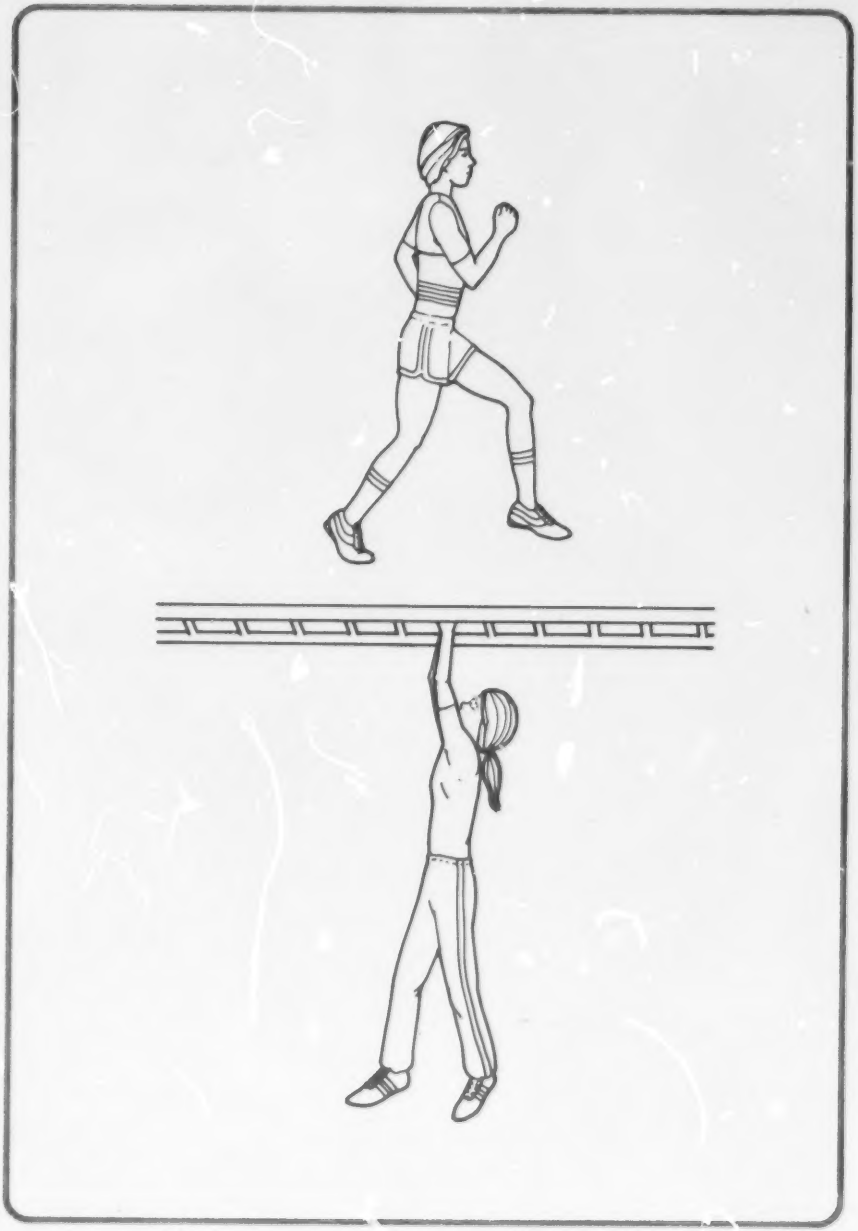


Figure 9.

Humanities

Play, sport, dance, and exercise are movement forces which can contribute to some extent to the ability to "survive" a meaningful existence, and to cope with the everyday stresses of life

Why?

1. Play and dance have always been forms where human life interprets itself.
2. Many who engage in natural sports do so to enjoy the beauty of nature or to sense one's finiteness in an infinite cosmos.
3. For others there is something more, something called challenge, in which there is a high degree of stress and risk and in which the spirit of adventure provides a sense of exhilaration, confidence, control, and self-satisfaction.

How?

Learning Experiences

1. Students need to perform in activities specifically to express an idea, exaggerate a theme, or attempt to initiate an objective response from spectators. In small groups or individually, students can choreograph movements in activities such as dance, gymnastics, swimming, and game forms. Teachers could also set up the experience much like charades in which one group tries to interpret the idea or theme from the movement patterns of the other.
2. Activities employing the naturalness of nature should be explored, (cycling or jogging through the "openness" with energy centered on the beauty and calm). Discussions after the experience should be directed toward capturing the sereneness and tranquility of spirit as a means of release from life's daily anxieties.
3. Students should have selections in the curriculum which call for challenge and taking risks. Many tumbling stunts and diving activities offer this opportunity, but where possible skating, repelling, skiing, etc., could be suggested as extended activities. Through discussion, after participation, students could compare experiences of "highs", "control", "confidence", and "accomplishment".

Kinesiology

Transferring the weight of heavy objects safely requires the use of proper body mechanics

Why?

1. Lifting — bring the object as near the line of gravity (center of the body) as possible. Keep the back flat and use the strong muscles of the legs to lift.

2. Pushing/pulling — apply force in line with the center of gravity of the object. Apply force in the desired direction of movement. Keep the body in proper alignment, especially by maintaining a straight back.

How?

Learning Experiences

1. Practice lifting physical education equipment of varying sizes and weight, depending on individual strength from one table to another table, from a table to the floor (or low bench), and from the floor to the table. Children should work in pairs. One watches for the box to be in close to the body and for the back to be flat while the other lifts. Correct and incorrect techniques should first be demonstrated by the teacher to be sure children can identify proper and improper mechanics.

2. Put a tall heavy box on a towel on a slick floor. Mark three "x's" on it for places to push (one at center of gravity, one above, and one below). Let children determine what happens when the wrong x's are pushed. Try pushing from the "east" side to make the box move "north". Children analyze each other for use of flat back and use of leg muscles to push. Try a two against one tug-of-war to help children feel the proper pulling position — the two could just sit down and let the one try to move them from that position. Again, emphasize the use of leg muscles along with a flat back.

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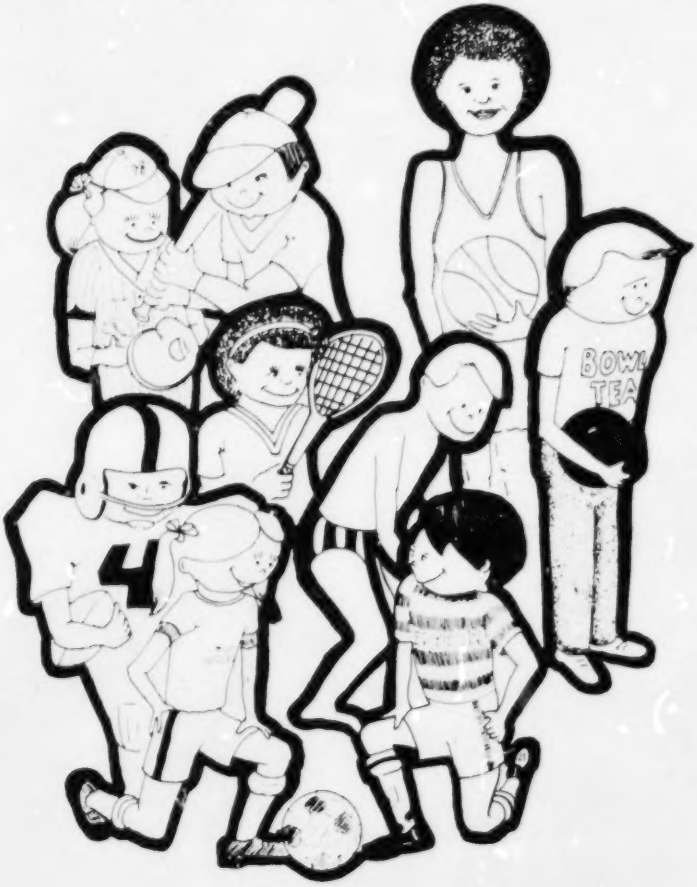

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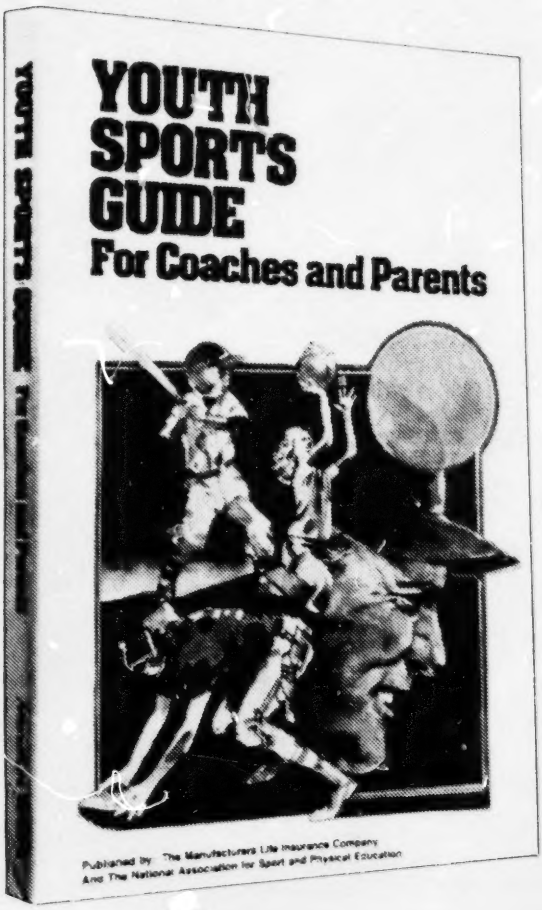
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